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Th15a

Previous Commission Actions & Dates:
Project Approved with Conditions: 10/14/04

Revised Findings:
Revised Findings Staff Report Prepared: 11/23/04
Revised Findings Hearing Date: 12/9/04
Staff: SC

REVISED FINDINGS FOR COASTAL DEVELOPMENT PERMIT APPLICATION

Application number.....**3-02-024, Ocean Harbor House Seawall**

Applicant.....Ocean Harbor House Homeowners' Association

Project location.....Seaward of the oceanfront condominiums (172 units) at Ocean Harbor House, 125 Surf Way, Monterey (Monterey County)

Project description.....Underpinning of seaward spread foundations with reinforced concrete piers; Removal of existing riprap revetment; Relocation of existing sewer line; Construction of an approximately 585-foot-long reinforced concrete vertical seawall; Relocation of storm water pipes and dissipaters.

Local approval.....City Council Approval, including Statement of Overriding Considerations, January 6, 2004.

File documents.....Ocean Harbor House Seawall Environmental Impact Report (Pacific Municipal Consultants, June 2003); Report on Repair/Mitigation Alternatives to Address the Bluff Retreat Erosion Problems with the Monterey Ocean Harbor House Development (O'Connor & Flick, March 27, 2002); Coastal Processes, Monterey Ocean Harbor House (Flick, January 12, 2001); Ocean Harbor House Seawall Project EIR Professional Opinion Report and Addendum (Griggs, March 2003 & May 2003); Preliminary Planting Plan & Biological Assessment, Ocean Harbor House, and Addendum (Hameister, April 30, 2002 & June 2003); Extension of 180-Day Permit Streamlining Act Deadline, dated July 7, 2004

Commission Action.....**Approval with Conditions**

Date of Action.....October 14, 2004

Commissioners on Prevailing Side: Caldwell, Iseman, Kruer, Nava, Neely, Peters, Potter, Burke

Staff recommendation ...**Adopt Revised Findings**

Staff Note: The Commission made changes to Special Condition #4 after the public hearing at the

October 14, 2004 meeting in San Diego. Specifically, the Commission determined that the mitigation fee should be based on the economic beach valuation method described in the staff report, rather than the real estate valuation method. The Commission delegated the method of payment of the mitigation fee (e.g. amortized or paid upfront) to Staff. Staff has made substantive changes to the Summary, Special Condition #4 (regarding the amount of the required mitigation fee), and Section III(C)(2)(d) (Public Access and Recreation Conclusion) in this revised staff report to reflect the Commission's changes. Staff anticipates that the required mitigation fee will be paid in the form of five equal installments over a five year period of the present value of the 50 year cumulative $5.3 million, with the first installment due prior to commencement of construction activities. As summarized in Exhibit 17, Staff is anticipating using a discount rate of 3%, which results in a present value of $2,150,054, or $430,011 a year for five years

In addition, the Commission approved an addendum to the staff report presented at the October 14, 2004 hearing. This addendum has been incorporated into this staff report.

Summary: The Applicant proposes to construct an approximately 585-foot-long reinforced concrete vertical seawall to protect the Ocean Harbor House (OHH) condominium complex (172 units on Del Monte Beach in the City of Monterey) from shoreline erosion. In addition to other typical impacts of shoreline protective devices (e.g. sand supply loss, visual impacts), development of the proposed seawall will, over time, result in the loss of approximately one acre of sandy recreational beach located seaward of the condominium complex, including 435 linear feet of lateral beach access and all existing recreational use (sunbathing, beachcombing, surf fishing, etc.). Although the project includes a proposal to provide inland lateral public access through the condominium complex's parking lot (behind beach-fronting units) to connect the adjacent State and City beaches once beach lateral access is no longer available, the applicants have not proposed any specific measures that would provide reasonable and proportional mitigation for the anticipated one acre loss of the public recreational beach land. In part due to this significant and unmitigated impact, the project EIR concluded that relocation of the OHH units at risk was the least environmentally damaging alternative. Nonetheless, staff is not recommending relocation or other project alternatives, but is recommending that the Commission approve the seawall project with special conditions, including a requirement for the applicants to pay an in-lieu fee for acquisition of shorefront public recreational land in the vicinity of OHH.

OHH has made numerous attempts to deal with shoreline erosion threats since the completion of its construction on the foredune backing the City of Monterey Beach in the early 1970s. In the early 1980s, OHH installed a rock revetment on City of Monterey Beach property that was subsequently removed. In 1992, the Commission approved a permit to allow conversion of the specific land use at the site from the pre-Coastal Act OHH apartments to individually owned condominiums, and to retrofit the OHH with large concrete caissons designed to protect the development from shoreline erosion forces. This permit, though, was never fully implemented, thus continuing to leave OHH vulnerable to long-term shoreline erosion. In 1998, OHH again installed a rock revetment as an emergency response to wave attack. Initially through its permit actions, the Commission allowed this temporary revetment to remain in place while OHH pursued a long-term solution; however, since May of 2003, OHH has been under a Commission consent cease-and-desist order that establishes a process for removal of the revetment. The

proposed vertical seawall is the outcome of this process.

As mentioned, the project EIR concludes that relocation of the most seaward condominium units would be the least environmentally damaging alternative. Nonetheless, the Commission finds that there are no feasible alternatives to protect the existing threatened condominium buildings at this location that would avoid some form of shoreline armoring that would also be consistent with the Coastal Act. In addition, there are no feasible mitigation options to actually maintain or create a new recreational beach in front of the OHH, and no specific new potential public recreational land in the vicinity of the project has been identified by the Applicant to mitigate the loss anticipated at the site. Without mitigation for this impact, though, the project cannot be found consistent with the Coastal Act requirement to protect maximum public access and recreation to and along the shoreline. Therefore, the Commission is requiring that the applicant pay an in-lieu fee to the Monterey Peninsula Regional Parks District for acquisition of shorefront land in the vicinity of OHH, to be used for public recreation. There is no doubt that recreational beach resources in Monterey generally have a tremendous market and non-market social value. To address the specific value of the recreational beach land loss due to the project, staff has considered three different methods to estimate at least some of the quantifiable aspects of public recreational beach land value at this location. This includes consideration of the real estate market value of an acre of beach in the vicinity of OHH, the cost of supplying an amount of beach sand roughly equivalent to the beach area lost due to the project, and an economic valuation based on the estimated recreational value of the beach to individual consumers. The Commission is imposing a mitigation fee of $5.3 million based on the economic valuation of the estimated recreational value of the beach because the primary impact of the project will be the loss of all public recreation activities and access on approximately one acre of beach located seaward of Ocean Harbor House. Overall, though, this fee must be considered only partial mitigation for the impacts of the proposed project, since no measure can prevent the loss of the existing recreational beach currently fronting OHH. In addition, while application of the fee is intended to result in the acquisition of new public recreational land, given the contingencies of the real estate market and available land in the vicinity of the project, future acquisition of sandy beach area between the surf zone and the foredune, which is the type of land being lost due to the seawall, cannot be guaranteed. Further still, the various components used to determine the economic valuation for the long-term recreational value of the beach to the public are conservative, suggesting that the recommended fee may underestimate the true economic value of the beach seaward of Ocean Harbor House. Still, with the required mitigation fee, the Commission can find that the project is consistent with the Coastal Act.

Finally, the Commission is also requiring conditions similar to those applied by the Commission in prior cases that are designed to offset coastal resource impacts while providing for long-term permitted maintenance of the seawall. This includes provisions for: maintenance to take place on an as-needed basis (subject to approval of future coastal development permits, if necessary); visual treatment to match the color and texture of the seawall with the adjacent dunes; landscaping with native plantings designed to cascade over the topmost portion of the seawall for screening; restrictions on construction activities during the snowy plover's nesting season, unless approvals are obtained from U.S. Fish & Wildlife Service, California Department of Fish & Game, and State Parks; submission of a public access management plan; submission of a construction plan to protect water quality and public access during

construction; consultation with Monterey Bay National Marine Sanctuary staff and State Parks staff regarding the need for additional permits, and; assumption of risk by the property owner.

Staff Report Contents

Exhibit 13: Passive Erosion/Loss of Lateral & Vertical Beach Access Sections of EIR
Exhibit 14: Geological Hazard Abatement District Proposal
Exhibit 15: Estimated Beach Profile Over 50 years
Exhibit 16: Recent Correspondence
Exhibit 17: Present Day Fee Calculation

I. Staff Recommendation on Revised Findings

Staff recommends that the Commission adopt the following revised findings in support of its October 14, 2004 approval of a coastal development permit for the proposed Ocean Harbor House seawall project.

STAFF RECOMMENDATION OF ADOPTION:

Staff recommends a **YES** vote. Passage of this motion will result in adoption of the following resolution and revised findings as set forth in this report. Pursuant to Section 30315.5 of the Coastal Act, the motion requires a majority vote of the members from the prevailing side present at the October 14, 2004 hearing, with at least three of the prevailing members voting. **Commissioners eligible to vote on the revised findings are Commissioners Caldwell, Iseman, Kruer, Nava, Neely, Peters, Potter, and Burke.** If the motion fails, the revised findings are postponed to a later meeting.

RESOLUTION:

The Commission hereby adopts the findings and conditions set forth below for approval of a coastal development permit for the proposed Ocean Harbor House seawall project on the grounds that the findings support the Commission's decision made on October 14, 2004 and accurately reflect the reasons for that decision.

II. Conditions of Approval

A.Standard Conditions

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

B. Special Conditions

1. **Existing Development.** The approved seawall is for the protection of the existing Ocean Harbor House condominium structures, in their configuration and scale (height, square footage, mass, etc.) as of the date of the approval of Coastal Development Permit 3-02-024 only. These structures may be maintained and/or repaired provided that such repair and maintenance does not increase the extent of nonconformity of the structures. Development that results in demolition and/or replacement of more than 50% of the exterior walls of the structures (as individual or cumulative additions) shall not be permitted unless the structures comply with the setback requirements of this condition. New development at the Ocean Harbor House condominiums that is not otherwise exempt from coastal development permit requirements shall be set back sufficiently as to not rely on the approved seawall, and to prevent the need for any future protective structure during the expected life of the development, but in no case less than a setback equivalent to a 100-year coastal erosion line based on shoreline retreat rates of unarmored sections of coast in the immediate vicinity of the project. Development also shall be set back a sufficient distance landward and elevated to a sufficient foundation height to eliminate or minimize to the maximum extent feasible hazards associated with anticipated sea level rise over the life of the project. Applicants for such new development are required to accept a deed restriction to waive all rights to protective devices associated with development on coastal dunes.

2. **Assumption of Risk, Waiver of Liability, and Indemnity Agreement.** The Permittee acknowledges and agrees, on behalf of itself and all successors and assigns: (i) that the site is subject to hazards from coastal erosion and scour, wave and storm events, dune and other geologic instability, and the interaction of same; (ii) to assume the risks to the Permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards; and (v) that any adverse effects to property caused by the permitted project shall be fully the responsibility of the landowner.

3. **Public Access Management Plan. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT,** the Permittee shall submit to the Executive Director for review and approval a public access management plan that provides for delineation, construction, and management of a public accessway from the adjacent City beach/park through the Ocean Harbor House parking lot to the State Beach, as shown on Exhibit 8. This public access shall be open to the public no later than that date upon which seawall construction is completed, and shall be open 365 days a year from 6 a.m. until 10 p.m., at a minimum, for the life of the seawall project (50 years) or as long as private residential development remains on the Ocean Harbor House condominium complex site. In addition, the Applicant will consult with State Parks regarding the construction of an access trail from the eastern portion of the parking lot to the beach (see Exhibit 8). If this portion of the access encroaches onto State Parks property, the Applicant shall submit evidence of a permit obtained from State Parks to construct the trail on State Parks property. The Applicant shall be responsible for maintenance of all portions of this public access, including any portion of the trail that may be on State Parks property. The public access management plan also shall include a signage plan that describes the location of public access signs that direct the public to and through the parking lot access, the dimensions and design of the signs, and the proposed text clearly stating the availability and hours of public lateral access through the parking lot. The management plan shall provide that all sandy beach areas seaward of the seawall shall be available to the public 365 days a year. No trespassing signs and other structural development seaward of the seawall is prohibited. Interpretive/educational signing concerning the history and impact of the seawall project and the Ocean House Harbor House development on the beach environment shall be provided at both ends of the public accessway near the beach.

4. **Mitigation Fee. PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES,** the Permittee shall, in accordance with the fee schedule approved by the Executive Director, begin payment of a fee of $5,300,000.00 into an interest-bearing account held by the Monterey Peninsula Regional Parks District (MPRPD), the purpose of which is to purchase beachfront/dune property for public recreational use in the southern Monterey Bay area. The entire fee and any accrued interest shall be used for the above-stated purpose, in consultation with the Executive Director, within ten years of the fee being deposited into the MPRPD account. Any portion of the fee that remains after ten years shall be donated to one or more of the State Parks located along southern Monterey Bay (Fort Ord State Park, Marina State Beach, Seaside State Beach, or Monterey State Beach), or other organization acceptable to the Executive Director, for the purpose of providing public access and recreation improvements to and along the shoreline, including improvements to the California Coastal Trail.

5. **Construction Plan. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT,** the Permittee shall submit a Construction Plan to the Executive Director for review and approval. The Construction Plan shall include, at a minimum, the following:

   (a) Construction Areas. The Construction Plan shall identify the specific location of all construction areas, all staging areas, all storage areas, all construction access corridors (to the

construction sites and staging areas), and all public pedestrian access corridors in site plan view. All such areas within which construction activities and/or staging are to take place shall be minimized to the maximum extent feasible in order to minimize construction encroachment on both the beach and beach access points, and to have the least impact on public access.

(b) Construction Methods and Timing. The Construction Plan shall specify all construction methods to be used, including all methods to be used to keep the construction areas separated from beach recreational use areas. All erosion control/water quality best management practices to be implemented during construction and their location shall be noted.

(c) Construction Criteria. The Construction Plan shall, at a minimum, include the following required criteria specified via written notes on the Plan:

- All work shall take place during daylight hours and lighting of the beach area is prohibited unless, due to extenuating circumstances, the Executive Director authorizes non-daylight work and/or beach area lighting.

- Construction work or equipment operations shall not be conducted below the mean high water line unless tidal waters have receded from the authorized work areas.

- Any construction materials and equipment shall be delivered to the beach area by rubber-tired construction vehicles. When transiting on the beach, all such vehicles shall remain as high on the upper beach as possible and avoid contact with ocean waters.

- All construction materials and equipment placed on the beach during daylight construction hours shall be stored beyond the reach of tidal waters. All construction materials and equipment shall be removed in their entirety from the beach area by sunset each day that work occurs. The only exceptions shall be for erosion and sediment controls.

- Construction (including construction activities, materials, and/or equipment storage) is prohibited outside of the defined construction, staging, and storage areas.

- No work shall occur on the beach during weekends unless, due to extenuating circumstances, the Executive Director authorizes such work.

- Equipment washing, refueling, and/or servicing shall not take place on the beach.

- The construction site shall maintain good construction site housekeeping controls and procedures (e.g., clean up all leaks, drips, and other spills immediately; keep materials covered and out of the rain (including covering exposed piles of soil and wastes); dispose of all wastes properly, place trash receptacles on site for that purpose, and cover open trash receptacles during wet weather; remove all construction debris from the beach).

- All erosion and sediment controls shall be in place prior to the commencement of

construction as well as at the end of each workday. At a minimum, silt fences, or equivalent apparatus, shall be installed at the perimeter of the construction site to prevent construction-related runoff and/or sediment from entering into the Pacific Ocean.

All requirements of the condition above shall be enforceable components of this coastal development permit. The Permittee shall undertake construction in accordance with the approved Construction Plan. Any proposed changes to the approved Construction Plan shall be reported to the Executive Director. No changes to the approved Construction Plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is necessary.

6. **Beach Restoration. WITHIN THREE (3) DAYS OF COMPLETION OF CONSTRUCTION,** the Permittee shall restore all beach areas and all beach access points impacted by construction activities, to their pre-construction condition. Any beach sand impacted shall be filtered as necessary to remove all construction debris from the beach.

7. **Seawall Facing.** The seawall shall be faced with a sculpted concrete surface that mimics, to the greatest extent feasible, the color and texture of the Del Monte Beach sand dunes. The surfacing shall completely hide the vertical pier elements of buildings 1 through 4. The color, configuration, and texture of the seawall surface shall be maintained throughout the life of the structure.

8. **Seawall Facing Verification. PRIOR TO SURFACING THE SEAWALL,** the Permittee shall arrange to have a small test section of the seawall faced consistent with the seawall surfacing component as described in Special Condition #7. The small test section shall be located at the end of the seawall (to allow direct comparison between the natural sand and the seawall) and shall include at least one pier element. After the small test section has been faced and allowed to cure to its final expected color, configuration, and texture, the Permittee shall notify Commission planning staff to arrange for a site visit to verify that the seawall facing approximates the approved expected finished facing product as described in Special Condition #7. At the Executive Director's discretion, the Permittee may submit photos of the test section to Commission planning staff in lieu of the site visit. If Commission planning staff should identify additional reasonable measures necessary to modify the facing in order to achieve consistency with the approved expected finished facing product and design objectives identified Special Condition #7, then such measures shall be applied to the test section or a new test section. In such a case, after the small test section (or a new test section subject to the same criteria) has been faced and allowed to cure to its final expected color, configuration, and texture, the Permittee shall again notify Commission planning staff to review the new or re-faced test section. The Permittee shall arrange for as many iterations of the facing and review process as necessary to achieve consistency with the objective in Special Condition #7. The seawall shall not be completely faced until planning staff of the Coastal Commission's Central Coast District Office has indicated in writing to the Permittee that the test section is consistent with the approved expected finished facing product and design objectives identified Special Condition #7. After the Permittee has received written verification that the test section is in conformance, the Permittee shall face the remainder of the seawall consistent with the approved test section facing.

9. **Landscaping Plan. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT,** the Permittee shall submit to the Executive Director for review and approval a landscaping plan that shows planter boxes incorporated into the top of the seawall. The landscaping plan shall include a list of native, coastal-tolerant, cascading plants that will be planted in these planter boxes to provide some visual screening of the seawall. All plantings shall be kept in good growing condition and replaced as necessary to maintain some visual screening of the wall over the life of the project.

10. **Seawall Maintenance.** It is the Permittee's responsibility to maintain the as-built seawall in a structurally sound manner and in its approved state. This includes maintenance of all visual treatments. The approval of coastal development permit 3-02-024 does not obviate the need to apply for future permits for any future maintenance and/or repair episodes. The Permittee agrees to apply for a coastal development permit, and any and all other permits required, for any proposed future maintenance and/or repair episodes.

11. **Dune Restoration. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT,** the Applicant shall submit to the Executive Director for review and approval a native dune restoration/landscaping plan for all vegetated areas impacted by construction of the seawall (these areas are generally identified on Exhibit 6, pp. 23, 24, 31). The landscaping plan shall include native dune plants that integrate with the existing vegetation on the adjacent City of Monterey and California State Parks properties, and that improve dune habitat and provide dune stabilization. The plan shall include a monitoring/maintenance component. All native plants shall be kept in good growing condition and replaced as necessary for the life of the project.

12. **Snowy Plover.** Construction activities on areas adjacent to the California State Parks properties will commence after September 15th and all activities shall be completed before March 1st to avoid disrupting any potential snowy plover nesting sites, unless the Permittee obtains approvals from U.S. Fish & Wildlife Service, California Department of Fish & Game, and State Parks that construction may take place between March 1st and September 15th.

13. **Black Legless Lizard. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, AND ON A DAILY BASIS PRIOR TO THE COMPLETION OF GRADING**, a qualified biologist with the appropriate permit from CDFG shall conduct a survey for the black legless lizard in the construction area using raking, coverboards, or other biologically acceptable methods. Surveys should be done in the mornings and evenings, when black legless lizards are most likely to be found. If found, the lizards should be captured and immediately placed into containers with moist paper towels, and released in similar habitat on undisturbed portions of the site at the same depth in the soil as when found. Evidence of compliance with this condition shall be prepared by the qualified biologist and submitted for confirmation by the Executive Director **PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND AT THE CONCLUSION OF GRADING ACTIVITIES**.

14. **State Parks. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION,** the Permittee shall submit to the Executive Director evidence that the Permittee has received a "right-of-entry"

permit from State Parks that allows the Permittee to encroach upon portions of State Parks property as needed for construction activities and riprap removal.

15. **Conformance with Monterey Bay National Marine Sanctuary Requirements. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT,** the Permittee shall submit to the Executive Director for review a copy of the Monterey Bay National Marine Sanctuary (MBNMS) permit, letter of permission, or evidence that no MBNMS permit is necessary.

16. **Deed Restriction. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the Permittee shall submit to the Executive Director for review and approval documentation demonstrating that the Permittee has executed and recorded against the parcel governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the special conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the property. The deed restriction shall include a legal description and site plan of the entire parcel or parcels governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

III. Recommended Findings and Declarations

The Commission finds and declares as follows:

A. Project Location, Background, & Description

1. Project Location

The Ocean Harbor House condominium complex is located at the seaward edge of a dune field on Surf Way in the City of Monterey, directly fronting Monterey Bay and Del Monte Beach (see Exhibits 1 and 2). The Ocean Harbor House development consists of 172 condominium units within 14 two-story buildings, with 88 of the condominium units located seaward of Tide Avenue; the remaining 84 units are located adjacent to or inland of Tide Avenue (all other residential development in the Del Monte Beach area is located inland of Tide Avenue.) The condominium complex is bordered on the east by State Park lands, on the north by City of Monterey beach property, and on the west by City parklands. A rock riprap revetment, which extends onto City of Monterey property, is located seaward of the four oceanfront buildings of the condominium complex (see Exhibit 3).

2. Project Background

The initial 88 units of the Ocean Harbor House complex were constructed on the dunes in 1968, with an additional 84 units added in 1974 (pre-Coastal Act approval). The land use at the site was initially private apartments. In 1992, the Commission granted a CDP (3-92-028) to change this specific residential land use by converting the apartment complex to individually owned condominiums. This CDP also allowed for the replacement of the existing shallow foundation pilings under Ocean Harbor House with caissons to depths that would provide structural stability and some protection from future coastal erosion (only a few of the 52 pilings approved for replacement were actually replaced, however). The findings for CDP 3-92-028 conclude that the project as conditioned was consistent with Coastal Act section 30253, which requires that new development assure stability and structural integrity or otherwise require the construction of protective devices that would substantially alter natural land forms along bluffs. The findings also noted that the Ocean Harbor House site is subject to encroaching erosion and wave damage that could significantly impact the site and threaten the development, especially during major storms. Thus, the permit was conditioned to require that potential buyers of the new condominium units be informed about the potential hazards and relieve the State of claims of future liability. Buyers are informed of the hazards in Article VXI, Section 16.15 of the Ocean Harbor House Covenants, Conditions and Restrictions (see Exhibit 12).

Ocean Harbor House was first seriously threatened by the large El Niño storm event of 1982-83. A variety of temporary winter protection measures were used in the 1980s, including a riprap revetment consisting of 3,800 tons of rock. Ultimately that riprap revetment was removed and the front condominium units were re-supported by reinforced concrete piers connected by grade beams. Four of these deep piers were used to support each of the four seaward units. The remaining structures are supported by shallow spread footings, which would be susceptible to failure with continued dune retreat (see Exhibit 4).

In December of 1998, the Commission granted Ocean Harbor House an emergency permit (3-98-116-G) to protect a portion of the condominium development and an associated sewer line from shoreline erosion by installing a temporary riprap seawall. As a condition of this permit, the wall was to be removed in its entirety by May 23, 1999, unless the Commission had issued a regular permit for the development authorized by the emergency permit. In 2000, Ocean Harbor House obtained a new CDP (3-99-090) to include retention of the riprap structure past the May 1999 date, along with construction of a sand berm. The conditions on CDP 3-99-090 required the Permittee to submit a complete CDP application for the proposed permanent solution no later than April 1, 2001 (throughout the history of Ocean Harbor House, Commission staff has been urging the owners to develop a long-term response to the natural erosion/coastal hazard threats that would preclude the need for emergency permits and avoid or minimize impacts to coastal resources). In addition, CDP 3-99-090 required that sand berming activities would cease and the riprap would be completely removed by November 1, 2001. The Commission approved a one-year extension of this CDP in December 2001 (CDP 3-99-090-A1), giving the Permittee until April 2002 to submit a CDP for a long-term solution and until November 2002 to remove the riprap. This amendment also required the Permittee to submit a detailed description of the proposed response, as well as a comparative analysis of the full range of alternatives considered in the selection of the long-term solution. The Permittee did not obtain Commission approval to retain the

temporary riprap structure by November 1, 2002 and thus was in violation of the Coastal Act. Ocean Harbor House, however, asserted that it had not violated the Coastal Act because it had complied with every requirement imposed upon it but that additional time extensions were required due to the City of Monterey's reevaluation of the potential environmental impacts of the proposed seawall project and alternatives.

In March 2003, Commission staff and Ocean Harbor House's agent agreed to recommend that Ocean Harbor House enter into a consent cease-and-desist order, providing that the order allowed adequate time for the completion of the EIR process and did not require Ocean Harbor House to remove the temporary riprap structure during the winter season. In May 2003, the Commission approved Consent Cease & Desist Order No. CCC-03-CD-4, which requires a process for eventual removal of the riprap revetment.

The EIR found that the proposed seawall project would have significant unavoidable impacts on aesthetics/visual resources in the Del Monte Beach area for two reasons: 1) Development of the proposed seawall would cause the formation of a peninsula, with eventual loss of the entire beach along the Ocean Harbor House seaward frontage, and; 2) The cumulative impacts of the proposed project and the nearby Monterey Beach Hotel (which is also located on Del Monte Beach) would fragment the continuity of the shoreline. The EIR determined that there are no feasible mitigation measures for these impacts that can reduce the impacts to a level of insignificance, although other project alternatives that did not involve a shoreline structure could avoid this impact (see section III.C.1a below for a discussion of these alternatives). In particular, the EIR concluded that relocation of the shorefront condominium units at immediate risk from shoreline hazards was the environmentally superior alternative. Nonetheless, the City of Monterey approved the seawall project, without mitigation for the loss of public beach in front of the OHH, and adopted a Statement of Overriding Considerations (see Exhibit 5).

3. Project Description

The proposed project involves construction of an approximately 585-foot long seawall along the oceanfront condominiums at the Ocean Harbor House (see Exhibit 6 for project plans). The seawall will be constructed on Ocean Harbor House property and will not extend onto City beach property. As shown by the applicant's geotechnical analysis, though, over time the mean high tide will eventually overtake the OHH property such that the front row of units will lie at least in part below the mean high tide.

The intention of the seawall is to prevent further erosion and undermining of the dune area that protects the shallow spread footing portions of the seaward buildings' foundations and the common areas between the buildings. The seawall would be constructed of reinforced concrete with engineered wave returns that would also function as foundation enhancement and stabilization for buildings #1 through #4, which are the seaward-most buildings. A sheet-pile wall capped with a concrete wave return would be installed in the common areas between the buildings. To eliminate the need for a permanent encroachment on City of Monterey property, the first seaward foundation line will be shored with underpinning piers and sheet-pile return "wing" walls will be installed at the eastern and western ends of the development. The "wing" walls will extend inland 59 feet and 56 feet at the east and west ends of

the Ocean Harbor House development, respectively (see Exhibit 6, pp. 22-24). The shoring piers for the first seaward spread footing and entry deck footing will be deep enough to prevent subsidence of this footing. This will be accomplished by excavating out the bluff area from underneath the footprint of the building area to install the concrete seawall structure within the property boundary of the Ocean Harbor House development.

The proposed project would be completed in six phases – see Exhibit 7 for a complete description of each phase. Phase I will involve underpinning the most seaward spread foundation of buildings #1 through #4 with 32 hand-dug reinforced-concrete piers, and reinforcing the most seaward entry deck bridge foundation of the four buildings with eight helical anchors (see Exhibit 6, pp. 10-14).

Phase II will involve removal of the protective sand berm and temporary rock riprap that is located seaward of buildings #1 through #4 (see Exhibit 6, pp. 17-21). The sand from the berm will be spread out across the width of the beach area; the riprap will be removed and hauled away by truck from the site.

Phase III will relocate the existing sewer line beyond the 100-year erosion line on the landward side of the proposed seawall (see Exhibit 6, pp. 15-16). This will require relocating portions of the sewer line where the seawall angles back into the common areas between buildings #1 and #2 and buildings #3 and #4. The sewer lateral to the City manhole at the west end of the development will be removed and disposed of off site. A new sump will be installed with an automatic pump to discharge the sewage effluent into the City sewer manhole located on Tide Avenue.

Phase IV includes installation of a curvilinear seawall along the seaward portion of the Ocean Harbor House development, except for the east return wall by State Park lands (see Exhibit 6, pp. 22-27). Under the seaward end of the buildings and the return ends of buildings #1 and #4, the seawall will be a pier-supported, tied-back, reinforced concrete retaining wall. Within the common areas and at the end of the development, the seawall will be a tied-back sheet-pile retaining wall.

Phase V includes relocation of the existing storm drain lines to discharge into the City drain line off Surf Way (see Exhibit 6, pp. 15-16).

Phase VI includes installation of a tied-back sheet pile retaining wall at the eastern end of the development, adjacent to State Park lands (see Exhibit 6, pp. 22, 24).

The development of the seawall will ultimately lead to the loss of approximately one acre of public recreational beach land, including 435 linear feet of lateral beach access, in front of the condominium complex (see complete discussion in Natural Hazards and Public Access sections below). The City and the Applicant originally considered an elevated public walkway along the public frontage of the condominium complex as a possible option for preserving lateral access. Such a walkway, however, would extend over public City property (which the City opposes) and would require closure during storm periods. In addition, the walkway would be subject to potentially dangerous uplift forces during high wave action. Thus, this idea was rejected. Alternative year-round safe public access is proposed beginning at the adjacent City park, traversing the Ocean Harbor House parking lot, and ending up at the

adjacent State Park property (see Exhibit 8). No mitigation measure was proposed by the applicant or adopted by the City to offset the anticipated long-term loss of one acre of recreational beach land.

According to the project engineer, the anticipated project life of the seawall is 50 years. The actual project life of the seawall, however, could be less than or more than 50 years depending on a number of factors, including the number and frequency of major storm events that occur after the wall is built. In any event, the proposed seawall will require regular repair and maintenance activities throughout the life of the project.

B. Standard of Review

This area of the City of Monterey falls within the coastal zone. The Del Monte Beach Land Use Plan (LUP) was effectively certified in 2003. However, several other components of the Local Coastal Program (LCP) (including one land use segment and the implementation plan) are not yet certified; thus, the City does not have a fully certified LCP. Therefore, the LUP at this stage of the certification process is advisory only and the standard of review for the project is the Coastal Act.

C. Coastal Development Permit Determination

1. Natural Hazards

Coastal Act Section 30235 addresses the use of shoreline protective devices:

> ***Section 30235.*** *Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.*

Coastal Act Section 30253 addresses the need to ensure long-term structural integrity, minimize future risk, and avoid additional, more substantial protective measures in the future. Section 30253 provides, in applicable part:

> ***Section 30253.*** *New development shall:*
>
> *(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
>
> *(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

Del Monte Beach LUP Natural Hazards Policies 1, 4, 5, 6, & 7 state:

> *1. New development shall be constructed in a manner that will minimize risks to life and*

property from geologic, flood, and fire hazards; such development shall be sited and designed to not require a shoreline protection structure during the life of the development. Applicants for new development are required to accept a deed restriction to waive all rights to protective devices associated with development on coastal dunes.

4. For bayfront properties, site specific geotechnical studies submitted as part of the application, shall be conducted to determine storm wave reach and tsunami runup and to ensure accurate determination of coastal erosion rates. Such studies shall reflect current known factors attributable to erosion, the recent cessation of sand mining in upcoast Sand City, and other current known technical factors used in the science of coastal erosion. Wave runup shall be analyzed for an eroded shoreline, combined with a 100-year storm event. Tsunami runup may be analyzed on an average beach profile, with consideration for, at a minimum, the 100-year event.

5. No development shall be allowed which would increase the rate at which erosion is occurring. Development located in or adjacent to coastal dunes shall be sited and constructed in a manner that minimizes disturbance to the foredunes and to dune vegetation, and shall include an analysis of wind direction and orientation of proposed development to avoid adverse wind impacts to the dune system.

6. Existing, lawfully established structures, which do not conform to the provisions of the LCP, may be maintained and/or repaired provided that such repair and maintenance do not increase the extent of nonconformity of the structure. Additions and improvements to such structures may be permitted provided that such additions or improvements comply with the current standards and policies of the LCP and do not increase the extent of nonconformity of the structure. Substantial additions, demolition and reconstruction, that result in demolition and/or replacement of more than 50% of the exterior walls (as individual or cumulative additions) shall not be permitted unless such structures are brought into conformance with the policies and standards of the LCP.

7. Siting and design of new shoreline development and shoreline protective devices shall take into account anticipated future changes in sea level. In particular, an acceleration of the historic rate of sea level rise shall be considered. Development shall be set back a sufficient distance landward and elevated to a sufficient foundation height to eliminate or minimize to the maximum extent feasible hazards associated with anticipated sea level rise over the expected 100-year economic life of the structure. No new lots shall be created within areas of high water hazard.

In addition, Del Monte Beach LUP Natural Hazards Policy 10 specifically applies to the sewer line at Ocean Harbor House, and states:

10. The sewer line serving the Ocean Harbor House condominiums shall be relocated landward beyond the 100-year erosion line.

Del Monte Beach LUP Diking, Dredging, Filling and Shoreline Structures Policy 4 requires specific setbacks for new development, and states:

> *4. New development and facilities shall be located with a shoreline setback sufficient to prevent the need for protective structures during the expected life of the development, but not less than a setback to the 100-year coastal erosion line, as determined by qualified professionals using the most current methods and information.*

Coastal Act Section 30235 acknowledges that seawalls, revetments, retaining walls, groins and other such structural or "hard" methods designed to forestall erosion also alter natural shoreline processes. Accordingly, with the exception of new coastal-dependent uses, Section 30235 limits the construction of shoreline protective works to those required to protect existing structures or public beaches in danger from erosion. The Coastal Act provides these limitations because shoreline structures have a variety of negative impacts on coastal resources including adverse affects on sand supply, public access, coastal views, natural landforms, and overall shoreline beach dynamics on and off site.

The proposed project includes underpinning of the most seaward spread foundation of buildings #1 through #4, the removal of the existing riprap revetment, relocation of the sewer line to beyond the 100-year erosion line, installation of an approximately 585-foot seawall, and relocation of the storm drain lines to discharge into the City drain line off of Surf Way (see Exhibit 7 for a complete description of all phases of the proposed project).

Under Coastal Act Section 30235, new armoring may be approved if: (1) there is an existing structure in danger from erosion; (2) shoreline-altering construction is required to protect the existing threatened structure; and (3) the required protection is designed to eliminate or mitigate the adverse impacts on shoreline sand supply.

For the purposes of shoreline protective structures, the Coastal Act distinguishes between development that is allowed shoreline armoring, and development that is not. Under Section 30253, new development is to be designed, sited, and built to allow the natural process of erosion to occur without creating a need for a shoreline protective device. Coastal Act 30235 allows for shoreline protection in certain circumstances (if warranted and otherwise consistent with Coastal Act policies) for "existing" structures. One class of "existing structures" refers to those structures in place prior to the effective date of the Coastal Act. Coastal zone development approved and constructed prior to the Coastal Act went into effect was not subject to Section 30253 requirements. Although some local hazard policies may have been in effect prior to the Coastal Act, these pre-Coastal Act structures have not necessarily been built in such a way as to avoid the future need for shoreline protection (in contrast to those evaluated pursuant to Section 30253). Such is the case with Ocean Harbor House, which was constructed on the foredunes immediately fronting Del Monte Beach.

In this case, the proposed project would be designed to protect a structure that was approved and partially developed as an apartment complex prior to the coastal permitting requirements of the Coastal Act (the portion of Ocean Harbor House that is located inland of Tide Avenue was constructed in 1974). Although the Commission did approve the conversion of the land use of the structure from apartments to

individually owned condominiums in 1990 (condominium conversions are subdivisions of real property, which is considered new development under the Coastal Act), the now existing condominium buildings are structures that existed at the time that Section 30235 went into effect. Special Condition #1, however, notes that the proposed seawall project is for protection of the existing condominium buildings *only*, and not for any demolition/rebuild or other substantial changes to the existing buildings. This is because the existing condominiums are located in a hazardous area that is not appropriate for new development under the Coastal Act. In this sense, the condominiums are "non-conforming" and any future substantial redevelopment of the site would need to comply with the hazard avoidance/setback requirements of the Coastal Act and/or a future certified LCP (i.e., sited to be safe from shoreline hazards, without need for a seawall).

The Coastal Act allows shoreline armoring to protect existing structures in danger from erosion, but it does not define the term "in danger." There is a certain amount of risk in maintaining development along a California coastline that is actively eroding and can be directly subject to violent storms, large waves, flooding, earthquakes, and other geologic hazards. These risks can be exacerbated by such factors as sea level rise and localized geography that can focus storm energy at particular stretches of coastline. As a result, some would say that all development along the immediate California coastline is in a certain amount of "danger." It is the degree of threat that distinguishes between danger that represents an ordinary and acceptable risk, and danger that requires shoreline armoring per Section 30235. Lacking Coastal Act definition, the Commission's long practice has been to evaluate the immediacy of any threat in order to make a determination as to whether an existing structure is "in danger." While each case is evaluated based upon its own particular set of facts, the Commission has generally interpreted "in danger" to mean that an existing structure would be unsafe to occupy in the next two or three storm cycles (generally, the next few years) if nothing were to be done (i.e., the no project alternative). In this case, buildings #1 through #4 have been seriously threatened by storm surge and wave run-up since the early 1980's. In more recent years, the storms of 1997-98 and 2002-03 also threatened the seaward buildings of the Ocean Harbor House complex, requiring the installation of riprap along the entire Ocean Harbor House seaward frontage. In short, a portion of the OHH condominium building structures is in danger from erosion for purposes of Section 30235.

The second test of Section 30235 of the Coastal Act that must be met is that the proposal to alter the shoreline must be *required* to protect the existing structures. In other words, under the policies of the Coastal Act, the project must be the least environmentally damaging feasible alternative. Section 21080.5(d)(2)(A) of CEQA likewise prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available that would substantially lessen any significant adverse effects that the development may have on the environment. Any action the Coastal Commission may be required to take to continue protecting existing structures at this location must be consistent with this section of CEQA, as well as the Coastal Act. Other alternatives typically considered include: the "no project" alternative; abandonment of threatened structures; relocation of the threatened structures; and drainage and vegetation measures. The EIR evaluated a number of alternatives, which are discussed below:

a. Alternative Evaluation Study

Over the past several years, numerous solutions to the Ocean Harbor House erosion problem have been evaluated. The analysis of a variety of alternatives was presented in a report entitled "*Report of the Repair/Mitigation Alternatives to Address the Bluff Retreat Erosion Problems with the Monterey Ocean Harbor House Development,"* prepared by Steven E. O'Connor, P.E. and Reinhard E. Flick, Ph.D. in March 2002. Four alternatives were considered but rejected in the EIR as feasible alternatives, for various reasons. In addition, the EIR evaluated five potential alternatives. All of these alternatives are discussed below:

Alternatives Considered But Rejected:

1. Groin Repair Alternative:

Groins are sand retention structures built perpendicular to the shoreline. They are meant to interrupt the longshore transport of sand and thereby widen the adjacent beach. Groins are most effective on beaches with pronounced longshore transport. The groin repair alternative would consist of installing one or more groins along the beach in front of and/or adjacent to the Ocean Harbor House development. The groin alternative was rejected because it would permanently impact lateral access along the beach in front of Ocean Harbor House, hindering pedestrian traffic along the beach, and because it would encroach upon City of Monterey land. The groin would also result in visual obstruction and would not provide long-term protection for the condominium buildings. Also, because groins are most effective in areas with significant littoral drift, the minimal drift in this location would hinder a groin's effectiveness. For these reasons, construction of one or more groins is not a feasible repair alternative for the coastal erosion problem at Ocean Harbor House.

2. Offshore Reef Alternative

This alternative would consist of installing a reef in the ocean waters off the beach area that borders the Ocean Harbor House development. Installation of an offshore reef would cause the waves to break early enough so that wave run-up would not reach and erode away the base of the toe of the sand dune bluff at Ocean Harbor House. While this alternative would provide long-term protection of the condominium buildings and would not encroach on the public City beach and would not reduce lateral access, this option would require a permanent encroachment into the Monterey Bay National Marine Sanctuary to construct the reef and could result in additional environmental impacts to offshore habitats. In addition, the offshore reef could pose a navigation hazard to boaters and a safety hazard to swimmers. However, in recent correspondence the Sanctuary has indicated an interest in considering this alternative as a means to avoid the construction of a seawall (see Exhibit 16).

3. Sacrificial Sand Berm Alternative:

This alternative would consist of maintaining a sand berm along the seaward side of the Ocean Harbor House development. The purpose of the sand berm would be to mitigate the potential for further erosion of the sand dune bluff that protects the shallow spread footings of the four seaward buildings, access into and out of the properties, and the common areas that lie between the buildings from being undermined as a result of shoreline erosion and the bluff retreat process.

Because portions or all of the sand berm would be eroded away during winter storms, it would be necessary to periodically restore the sand berm. The amount of actual restoration would vary from year to year depending on the severity of the winter storms. If a severe storm, or a series of storms, destroyed the sand berm, it would be necessary to obtain a temporary emergency encroachment permit to install rock riprap (which was allowed under emergency permit CDP 3-98-116-G). The sacrificial sand berm would thus be considered more of an interim measure until a permanent response to the shoreline erosion problem could be implemented. Thus, it is not a feasible alternative and would not provide a long-term resolution to the problem.

4. Slope Armoring Repair Alternative

This alternative would consist of installing a non-erodible facing to the existing natural sand bluff feature along the seaward side of the Ocean Harbor House development. Slope armoring repair would involve an inclined rock or concrete revetment structure. These structures are typically inclined back at a slope and are as flat as 2:1 (horizontal to vertical) and as steep as 1.5:1. Slope armoring repair would require some encroachment onto City of Monterey beach property. In locating the slope armor repair alternative to minimize or eliminate encroachment onto City property, the underside of most of the seaward units would be subject to potential damage and greater noise as a result of waves breaking directly underneath the buildings. A short seawall with a wave recurl would be required to mitigate the potential for damage to the underside of the buildings. Additional modifications to the buildings would be required including the relocation, strengthening or shielding of the utility lines that hang from the underside of the buildings; acoustical dampening for the undersides of the buildings to reduce the noise level of the waves when they break under the buildings, and construction of elevated structural walkways and stairways with splash deflectors and safety railings to maintain access to the most seaward top and bottom units.

Lateral access in front of Ocean Harbor House, as well as recreational use of the beach area generally, would be reduced and eventually lost over time, similar to the proposed project. In addition to its expanded encroachment on the beach and perhaps aesthetic impacts, the primary difference between the slope armoring alternative and the proposed seawall project is that with the slope armoring repair alternative, the waves would break underneath the buildings, requiring numerous modifications to the buildings to offset impacts due to underside wave break. For these reasons, and the fact that there would be uncertainty regarding the permanence of this alternative and no discernable environmental benefits regarding passive erosion (compared to the proposed project), this alternative was deemed an infeasible and inferior solution to the proposed project.

Project Alternatives

The proposed project would result in significant environmental impacts (discussed below), each of which can be mitigated to a less than significant level, with the exception of significant impacts resulting from loss of beach fronting the Ocean Harbor House property due to passive erosion. The following is a discussion of the range of alternatives discussed in the EIR. See Exhibit 9 for a comparison of the impacts of each project alternative to the proposed project.

1. The No Project Alternative

Under this alternative, the existing rock revetment would be removed (in compliance with the condition

of the emergency permit and subsequent regular permits and amendments). With removal of the protective riprap wall, the seaward units would likely be damaged and/or destroyed in the near future as the result of high surf and/or heavy storms (the EIR assumes that the City of Monterey would order their demolition prior to this occurring). The peninsula effect, with associated loss of beach, would not take place under this alternative. This alternative, though, would not protect the portions of Ocean Harbor House that are currently in danger from coastal erosion forces.

2. Planned Retreat (Abandonment and Demolition of Seaward Units)
Under the Planned Retreat Alternative, the rock riprap revetment would be removed and the five most seaward units of buildings #1 through #4 (a total of 20 units) would be abandoned and removed in the very near future. Within 15 to 25 years, the next four to six most seaward units in each building (an additional 16 to 24 units) would also be vacated and demolished. After each phase of removal, the ocean-side wall of the remaining most seaward units would be modified regarding exterior windows and decks. As part of this process, the sewer lines and other utilities that would no longer service the demolished units would be re-routed above the 100-year flood elevation.

The retreat process would not go on indefinitely. It is assumed that the City of Monterey would eventually determine a maximum retreat line to protect existing roads, major infrastructure, and significant portions of the Del Monte Beach neighborhood, although this time would be well into the future (greater than the life of the project). As many as 88 units (all of the units in buildings #1 through #8, which are all located seaward of Tide Avenue) could eventually be demolished and abandoned. This alternative would reduce impacts on aesthetic/visual resources, geological resources and public access compared to the proposed project because passive erosion would not take place and thus the "peninsula effect" and associated loss of public recreational beach land would not occur. Similar to alternative #1 above, though, this alternative would not provide for protection of the beach-fronting structures in danger from erosion.

3. Relocation of Seaward Units Alternative
This alternative would consist of removing the existing rock riprap revetment and demolishing/deconstructing the seaward units that would be susceptible to damage and eventual catastrophic failure due to erosion. The sewer lines and other utilities would be re-routed as necessary. The deconstructed units would be reconstructed in the Ocean Harbor House parking area located adjacent to Tide Avenue (see Exhibit 8). Unless the existing units were otherwise vacant, the replacement units would need to be built first to accommodate relocated property owners, prior to demolition of the existing units. (According to the Applicant, the units would need to be demolished because it is not physically feasible to relocate the seaward buildings due to their size and configuration and the fact that they are supported by pilings and not a standard foundation.) Under this alternative, the seawall would not be constructed and the "peninsula effect" would not occur; thus, the geological, public access, and aesthetic/visual impacts would be less than the proposed project. The EIR found that this was the environmentally superior alternative because there would be fewer environmental impacts associated with aesthetics, shoreline alteration, coastal erosion, hazards, and land use than the proposed project. Commission staff visited the project site and evaluated the potential for reconstruction of the existing seaward units in the Ocean Harbor House's main parking lot, which is located adjacent to Tide

Avenue. Commission staff estimated that approximately one-third (29) of the condominiums located seaward of Tide Avenue could be rebuilt in the existing parking lot. Thus, all of buildings #1 through #4 and a portion of another building could be demolished and rebuilt in the parking lot. This likely would provide at least 15 more years without a seawall at this location. The remaining condominiums that are located seaward of Tide Avenue (59 total), though, could be subject to damage from wave run-up and storm surge in as little as 15 years. More importantly, however, this alternative would require the relocation (through deconstruction and reconstruction) of individually-owned residential structures, in conflict with Coastal Act Section 30235, which allows for protection of existing structures.

4. Beach Replenishment Alternative

This alternative would involve importing beach quality sand from some offsite source and placing it along the shoreline fronting Ocean Harbor House. The O'Connor and Flick report determined that approximately 240,000 cubic yards of sand would be required for an appropriately sized replenishment project (approximately 3,000 feet long and 100 feet wide). This is equivalent to 24,000 single 10-cubic-yard dump trucks. This would require truck traffic and bulldozer activity on the beach five days a week for four months. The other option would be to locate large quantities of beach quality sand at some offshore site, beyond the boundaries of the Monterey Bay National Marine Sanctuary (which has a general prohibition of dredging material from the Sanctuary). Local Monterey Bay suppliers indicate that dredged sand is available from San Francisco Bay, although no information was readily available on the grain size distribution and therefore the beach compatibility of this material. In this case, the sand would have to be transported over a long distance, which would require great coordination and cost.

Sand added to the beach would continue to erode, such that while it would provide some short-term protection or buffer from moderate storm wave activity, it would not be effective under severe wave attack. Thus, beach replenishment can only be considered a short-term or temporary solution and the area would need to be replenished regularly; how regularly would depend on the combined effects of storm wave attack and tidal height or sea level at the time of wave attack. While this alternative would have fewer impacts to aesthetics/visual resources and coastal erosion than the proposed seawall, there would be significant impacts to traffic due to the need to transport sand to the site. In addition, bulldozers would be required to spread the sand once delivered. This approach, therefore, becomes a very invasive (due to transportation impacts), short-term solution. Also, this alternative would have greater potential biological impacts to the snowy plover.

5. Foundation Underpinning Alternative

This alternative is similar to the project approved by the Commission in 1992, and would involve installing 4-foot diameter, 50-55 foot deep concrete foundation piers and support beams to underpin or support the existing shallow foundations. To provide long-term (50-year) protection from bluff retreat, it would be necessary to underpin the 3rd, 4th, and 5th spread-footing foundation lines for the first four buildings. The underpinning would be identical to the pier and grade system that now supports the front units. Over time, as the dune edge continued to retreat landward, the units would be elevated 15-20 feet over the beach, and OHH would begin to look like buildings on a pier. In addition, waves would eventually begin to break directly under the units, requiring an acoustical dampening system to reduce the winter noise of breaking waves. Public lateral access fronting the condominiums would be

increasingly diminished, particularly at high tides (as it is now), and eventually lost. The Applicant's geotechnical analysis projects that the mean high tide will overtake the condominium complex in approximately 50 years, at which point lateral access would need to go under or around the buildings. Similar to the proposed seawall project, this alternative would result in the eventual loss of public beach, as the beach retreated under the structures. Other potential problems with this alternative include the need to suspend the entrances to the condominium units to protect them from wave action. In addition, all the utility lines, including the sewer lines, also would need to be suspended under the buildings and shielded from wave action. If this shielding were ever breached, there would be a potential for sewage discharge directly into ocean waters.

6. Conclusion

Given all of the above, the proposed project appears to be the optimum and only feasible alternative that can protect the existing threatened structures in this case. Therefore, the proposed project meets the second test of Section 30235 of the Coastal Act.

b. Sand Supply Impacts

The third test of Section 30235 requires that shoreline structures be designed to eliminate or mitigate adverse impacts to local shoreline sand supply.

Beach sand material comes to the shoreline from inland areas, carried by rivers and streams; from offshore deposits, carried by waves; and from coastal dunes and bluffs, becoming beach material when the bluffs or dunes lose material due to wave attack, landslides, surface erosion, gullying, etc. Coastal dunes, such as those present along this portion of the coastline, are almost entirely beach sand. Wind and wave action often provide an ongoing mix and exchange of material between beaches and dunes. When a shoreline protective device covers the back-beach or dune slope, the natural exchange of material either between the beach and dune or bluff will be interrupted and, if the shoreline is eroding, there will be a measurable loss of material to the beach. All dune or bluff material contributes to the littoral system at some level. However, sand and larger grain material are the most important components of the beaches in the vicinity of the project, and only the sand portion of the bluff or dune material is characterized as beach material.

Dune erosion, accretion, and bluff erosion are natural shoreline processes affecting the formation and dynamics of sandy beaches. Erosion of dunes and bluffs is one of several ways that beach quality sand is added to the littoral system. Beaches can be impacted when these natural processes are altered by the construction of shoreline armor.

Some of the effects of engineered armoring structures on the beach (such as scour, end effects, and modification of the beach profile) are temporary or difficult to distinguish from all the other actions that modify the shoreline. Such armoring also has distinct qualitative impacts to the character of the shoreline and visual quality. However, some of the effects that a structure may have on natural shoreline processes can be quantified, including: 1) loss of the beach area on which the structure is located; 2) the long-term loss of beach area that will result when the back-beach location is fixed on an eroding shoreline; and 3) the amount of material that would have been supplied to the beach if the back-beach or bluff were to erode naturally.

Obviously each of these potential impacts of shoreline structures affect public access and recreation by removing sand from the system that might otherwise replenish sandy beaches, encroaching on beach areas otherwise available for public use, or by causing the loss of beach area in front of the structure through passive erosion. As discussed above, and well-analyzed by the geotechnical reports for the project, construction of the proposed seawall will lead to the formation of a peninsula, with loss of the entire beach seaward of the condominium complex over the projected 50-year life of the project. Thus, approximately 435 linear feet of beach (approximately one acre as measured from the current mean high tide line to the OHH property line) and associated recreational activities on this section of Del Monte Beach will be lost due to construction of the project. The impact of the proposed seawall on public access and recreation is further discussed in Section III(C)(2) below.

Structural Encroachment on the Beach

According to the Applicant's engineer, the footprint of the proposed seawall will cover approximately 1,200 square feet of sand beach. As a result, the proposed project would eliminate a 1,200 square foot section of beach that would otherwise be available for access and beach use. The proposed seawall has been located as far inland as possible so as to minimize the encroachment of this structure on the beach. Nevertheless, this encroachment will affect public access and the beach, and there will be an adverse, unavoidable impact from the seawall for as long as it remains on the beach. The 1,200 square foot encroachment is one of the impacts from the proposed seawall that can be quantified.

Fixing the Back Beach

Experts generally agree that where the shoreline is eroding and armoring is installed, as would be the case here, the armoring will eventually define the boundary between the sea and upland areas. On an eroding shoreline fronted by a beach, the beach will be present as long as some sand is supplied to the shoreline and the beach is not submerged by sea level rise. As erosion proceeds, the beach also retreats. This process stops, however, when the retreating shoreline comes to a revetment or a seawall. While the shoreline on either side of the armor continues to retreat, shoreline retreat in front of the armor stops. Eventually, the shoreline fronting the armor protrudes into the water, with the mean high tide line fixed at the base of the structure. In the case of an eroding shoreline, this represents the loss of a beach as a direct result of the armor. This effect, which is known as "passive erosion," is what will eventually cause the formation of a peninsula if the proposed seawall is constructed at Ocean Harbor House. Passive erosion is the most significant impact caused by seawall placement on eroding coastlines. The alteration in the shape of the shoreline in front of and on either side of the armoring structure causes detrimental impacts to public lateral access and recreation as the existing beach in front of the structure is lost. In addition, as the beach becomes narrower over time, there is a risk of injury to swimmers at high tides and to beachgoers who may get caught between the wall and high surf. The passive erosion that will result from the proposed seawall will eventually eliminate the public recreational beach area in front of Ocean Harbor House, as well as the existing lateral access and recreational opportunities this beach now provides. See Exhibit 13 for an additional discussion of the impacts of passive erosion and loss of lateral and vertical beach access, as provided in the EIR.

Coastal processes at Ocean Harbor House have been studied in great detail by the Applicant's technical experts and they have been summarized in the EIR and in the *Report on Repair/Mitigation to Address*

the Bluff Retreat Erosion Problems with the Monterey Ocean Harbor House Development by Steven O'Connor and Reinhard Flick. For many years, there were several active sand mining operations that were removing between 100,000 and 400,000 cubic yards of sand annually from the Southern Monterey Bay littoral cell. These activities ended in the 1980's and some experts anticipated that there would be noticeable changes in shoreline dynamics and erosion trends when these activities ceased. In general, there seems to have been a buildup of beach material, such that the beach seaward of Ocean Harbor House has remained relatively stable since the mining activities were halted; however, the retreat of the dune/bluff system had continued.

Over the short term, this phenomenon had resulted in little change to the beach fronting Ocean Harbor House, while the beaches to the north and south have widened as the dune system retreats landward. On average, the dunes in this area are retreating at a rate of about 1.7 to 2.0 feet per year. [1] This has lead to an average widening of the upcoast and downcoast beaches of 1.7 to 2.0 feet per year. The dune system at Ocean Harbor House has been stabilized and the proposed seawall will continue this stabilization. The dunes at Ocean Harbor House are not retreating and thus, this beach has not experienced the natural widening that is occurring elsewhere. Eventually, the beach will widen to the point that the dunes are no longer threatened by wave action, or the beach will undergo a period of retreat and adjust to some new equilibrium with the backshore.

The Applicant has proposed the shoreline protection with the expectation that the dunes will continue to retreat. Implicit in this expectation is that the beach will not provide an effective buffer from wave energy. Thus, it would be expected that for the time that the seaward boundary of the beach remains relatively stable, the beach seaward of Ocean Harbor House would be stable, but would be, on average, 1.7 to 2.0 feet per year narrower than the adjacent beaches. If or when the seaward boundary of the beach moves landward, the beach at Ocean Harbor House would narrow until eventually Ocean Harbor House is a peninsula, with little beach seaward of the facility. Both impacts to the beach can be considered "passive erosion", where, over time, there will be less available beach fronting the structure than if the shoreline were not armored. This phenomenon occurred at a site to the north (Stillwell Hall), where eventually there was no dry beach seaward of the revetment that was protecting Stillwell Hall and thus no lateral access was possible.

Further adding to the potential loss of beach is the fact that the sea level has been rising slightly for many years. In the Monterey Bay area, the trend for sea level rise for the past 25 years has been an increase resulting in a 100-year rate of nearly 1 foot per 100 years.[2] Also, there is a growing body of evidence that there has been a slight increase in global temperature and that acceleration of the rate of sea level rise can be expected to accompany this increase in temperature. Some shoreline experts have

[1] Rogers Johnson (2000) states, "In 1983-84, recession rates were estimated to be on the order of 1.8 feet per year. Because of several years of less than average erosion rates, and the cessation of sand mining in Monterey Bay, a revised estimate was proposed at 0.85 feet per year in 1994. However, after the 1997 winter and the 1998 El Niño winter storms in which above-average erosion rates were measured, the original estimate of 1.7 –2.0 feet per year was again determined to be a more accurate rate."

[2] NOAA, National Ocean Service.

indicated that the sea level could rise as much 3 feet by the year 2100.[3] Mean water level affects shoreline erosion in several ways, and an increase in the average sea level will exacerbate all these conditions. On the California coast the effect of a rise in sea level will be the landward migration of the intersection of the ocean with the shore. On a relatively flat beach (such as that found at Ocean Harbor House), with a slope of 40:1, every inch of sea level rise will result in a 40-inch landward movement of the ocean/beach interface.[4] This, too, leads to loss of the beach as a direct result of armoring that fixes the location of the back beach.

The O'Connor/Flick Report[5], which was prepared for the project, reviewed a number of shoreline erosion studies for the southern Monterey Bay area. Based on these studies, the dune or bluff retreat rate in the vicinity of the Ocean Harbor House site is estimated at 1.0 to 2.0 feet per year, although up to 3.0 feet of erosion per year has been determined for the former Phillips Petroleum site (now State Parks property) just east of Ocean Harbor House. The Commission has established a methodology for calculating the long-term loss of public beach due to fixing of the back beach, this impact being equal to the long-term erosion rate multiplied by the width of bluff that has been fixed by a resistant shoreline protective device.[6] Using this calculation and an estimated average erosion rate of 1.7 to 2.0 feet per year in the project vicinity, the impact of the proposed seawall translates to passive erosion of 740 to 870 square feet of beach per year.[7] Over the 50-year life of the project, passive erosion would reduce the available beach area from between 37,000 sq. ft. (almost 0.85 acres) to 43,500 square feet (0.99 acres). The one-acre beach lost estimate also corresponds to the Applicant's analysis of the retreat of the mean high tide inland (see Exhibit 15). That is, if one defines the "beach" as the area between the mean high tide and the seaward property line of the OHH complex (a conservative estimate of beach area), the analysis shows the disappearance of the beach within 50 years (i.e., the mean high tide retreats inland of the property line).

The proposed seawall will also cause a reduction in sand supply from erosion of the dune located below the Ocean Harbor House condominiums. The Applicant's consulting geotechnical and coastal engineer/oceanographer calculated the amount of sand supplied annually by the erosion of the dune at Ocean Harbor House compared to the estimated littoral sand budget of southern Monterey Bay. Using an erosion rate of approximately 1.7 feet per year, the dunes at Ocean Harbor House yield approximately 323 cubic yards of sand per year to the littoral system (16,150 cubic yards over 50 years). In one view,

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3 Gary Griggs, as quoted in "Living on the Edge; a saga of seawalls, who wants them, who doesn't, and the fate of California's disappearing coastline" by Bruce Willey (in the "Good Times, " February 27 – March 5, 2003 issue). Mr. Griggs is quoted as also indicating that some estimates show that it will be higher than three feet, some lower, but that the three feet rise by 2100 is "probably the median."

4 In other words, a one-inch rise in sea level can result in over 3 landward feet of dry sandy beach loss. For the 3 feet rise estimated by 2100, that would translate into a 120-foot landward movement of the wet-dry intersection on a beach sloped at 40:1.

5 Steven E. O'Connor, P.E. & Reinhard E. Flick, Ph.D. *Report on Repair/Mitigation Alternatives to Address the Bluff Retreat Erosion Problems with the Monterey Ocean Harbor House Development*, March 27, 2002.

6 The area of beach lost due to long-term erosion (Aw) is equal to the long-term average annual erosion rate (R) times the number of years that the back-beach or bluff will be fixed (L) times the width of the bluff that will be protected (W). This can be expressed by the following equation: Aw = R x L x W.

7 That is, 1.7 feet per year multiplied by 435 feet for the lateral dune area that will be blocked by the seawall, equals approximately 740 square feet per year; 2.0 feet per year equates to 870 square feet per year.

this sand supply impact is relatively insignificant if one considers that the average annual volume of sand eroded from the dunes along the Monterey Bay shoreline (based on the ten miles of dune frontage between Monterey and Marina) is approximately 300,000 cubic yards. The annual loss of approximately 323 cubic yards of sand represents 0.11% of the estimated average annual volume of sand eroded from the dunes along the Monterey Bay shoreline. Nonetheless, any sand supply impacts due to the project should be eliminated or mitigated. This is particularly true when one considers the potential cumulative impact of shoreline structures on sand supply over the long-term.

Sand Supply Impacts Conclusion

The proposed seawall will have a quantifiable sand supply impact. The seawall will encroach onto 1,200 square feet of beach and will also cause a reduction in sand supply from erosion of the dune located below the Ocean Harbor House condominiums. The proposed vertical wall design does minimize the encroachment of a structural solution and thus provides some mitigation. Over time, an additional 37,000 square feet of beach will be lost due to passive erosion as well as the annual loss to the littoral system of 323 cubic yards of sand, or 16,150 cubic yards of sand over the 50-year life of the project.

In order to approve the project under Section 30235, sand supply impacts must be eliminated or mitigated. As proposed the project cannot eliminate these impacts. Some impacts of encroachment have been minimized through the use of a vertical wall. In response to staff queries about how the project might be revised to mitigate sand supply impacts, the Applicants' legal representative proposed the formation of a region-wide Geological Hazard Abatement District (GHAD), which would be partially funded by a sand loss mitigation fee paid by the Ocean Harbor House Homeowners' Association (see Exhibit 14). The purpose of the GHAD would be to fund research regarding the problems of sand supply loss and erosion in the southern Monterey Bay area, as well as studies regarding possible solutions to these problems. The proposal does not propose a specific mitigation amount, however, and the Ocean Harbor House Homeowners' Association Board has not approved the proposal. In addition, the onus for development and implementation of region-wide sand supply and erosion studies and solutions would fall on public agencies, such as the Coastal Commission and the Monterey Bay National Marine Sanctuary, and not on the Homeowners' Association. Finally, it is not evident that development of the GHAD would ever provide any direct mitigation for the loss of the public recreational beach area in front of Ocean Harbor House. For these reasons, the Commission finds that this proposal is inadequate.

Loss of beach material and loss of beach area are two separate concerns. A beach is the result of both sandy material and a physical area between the water and the back beach. The impacts from a seawall are impacts to both the beach area and the quantity of sandy beach material. The loss of beach material that will be a direct result of this project could be balanced or mitigated by obtaining similar quality and quantity of sediment from outside the littoral cell and adding this sediment to the littoral cell. There are sources of beach quality sediment that can be drawn upon to obtain new sediment for the littoral cell. Unfortunately there is not a source of extra beach land that can be used to add new land area to the littoral cell. Beach nourishment is a method that allows us to shift the shore profile seaward and create a new area of dry beach. This will not create new coastal land, but will provide many of the same benefits

that will be lost when the beach area is covered by a seawall or "lost" through passive erosion when the backshore location is fixed.

In many situations, the Commission has mitigated for the impacts to sand supply through a condition that requires the Applicant to pay into a fund for an amount of sand that could, through beach nourishment, offset the unavoidable impacts from the proposed shore protection. It is possible to estimate the volume of sand needed to create a given area of dry beach through beach nourishment. In this case, the proposed project will result in the immediate loss of 1,200 sq. ft. of beach due to the long-term physical encroachment of the seawall. In addition, there will be the loss of 37,000 to 43,500 sq. ft. of beach area through passive erosion from fixing the back of the beach. This eventual loss of total beach area cannot be directly replaced, but the volume of sand equivalent to the lost area can be estimated. In the Monterey area, it takes approximately 1 cubic yard of sand to create 1 square foot of dry beach. Thus, the placement of 38,200 cubic yards of sand could be mitigation for the loss of 38,200 sq. ft. of beach. Combining this with the direct 50-year loss of sand to the littoral cell of 16,150 cubic yards, one option for direct mitigation of the quantifiable impacts from this project would be to place 54,350 cubic yards of sand onto the beach near or adjacent to the proposed seawall (54,350 cubic yards = 38,200 + 16,150). This estimate is only a "rough approximation" of the impact of the seawall on beach area because a one-time placement of this *volume* of sand cannot actually result in creation and maintenance of beach *area* over the long term. This is made clear in the EIR analysis of the beach replenishment alternative discussed above, which shows that approximately 240,000 cubic yards of sand would be needed to create a beach that would function as adequate shoreline protection of the OHH. While this is not the same thing as the estimated volume of sand that is encompassed by the existing beach area that would be lost, it does suggest that the 38,200 cubic yard figure is a conservative estimate.

Still, beach nourishment is a common response to sand supply problems. A formal sand replenishment strategy can introduce an equivalent amount of sandy material back into the system to mitigate the loss of sand that would be caused by a protective device. Such an introduction of sand, if properly planned, can feed into the littoral cell sand system to mitigate the impact of the project. However, currently there are no existing regional beach nourishment programs directed at the southern Monterey Bay area. Absent a comprehensive program that provides a means to coordinate and maximize the benefits of mitigation efforts in the area now and in the future, the success of any piecemeal mitigation effort is questionable. As an alternative mitigation mechanism, the Commission oftentimes uses an in-lieu fee when in-kind mitigation of impacts is not available. In the Central Coast District Office, sand supply mitigation fees have previously been collected and applied to a beach nourishment/public access program in the City of Capitola (the in-lieu fee was mitigation for a seawall project in Capitola in which the funds collected could benefit a public access program and/or provide for sand replenishment).

As discussed above, the impacts of the project due to structural encroachment, fixing of the back beach, and retention of potential beach material can be quantified and translated into approximately 54,350 cubic yards of sand for the 50-year life of the project. If the Commission were to apply an in-lieu fee for sand supply in this case, the market cost of supply this amount of sand would be needed. Recent estimates to deliver beach quality sand to Monterey beaches are roughly $27 a cubic yard (including

sales tax). With respect to a sand supply loss mitigation fee, based on cost estimates to supply 1 cubic yard of sand to this location, the mitigation of 54,350 cubic yards of sand would be $1,467,450.00 (which is equivalent to $8,532.00 per condominium unit). However, in this case there is no sand supply program to which to allocate such a fee. Moreover, as previously discussed, even if a sand supply program was in place in the southern Monterey Bay area, a one-time mitigation of 54,350 cubic yards of sand would not sustain the beach in front of Ocean Harbor House indefinitely. The resulting wave run-up from storm surges would eventually wash the deposited sand away into the ocean, and new beach would not be able to form because of the seawall. To ensure the retention of the beach in front of Ocean Harbor House through a sand supply program, large volumes of sand (greatly exceeding 54,350 cubic yards) would need to be deposited on the beach at Ocean Harbor House at multi-year intervals over the life of the project.

Although the City of Monterey has discussed the possibility of seeking a regional solution to beach erosion issues, in concert with other southern Monterey Bay cities, no formal beach nourishment and mitigation program is in place, and this type of program is unlikely to be in place in the near future. In this case, the primary impact of loss at sand at the project site will be on public access and recreation because of the eventual formation of a peninsula with complete loss of approximately 435 linear feet of lateral beach access and ±1 acre of beach recreation area. As discussed below, there are other ways to value the loss of public beach that will result from this project. With the requirement of an in-lieu fee as otherwise determined below to address the loss of recreational beach area, the Commission finds that the project is consistent with section 30235.

c. Assumption of Risk

The Commission's experience in evaluating the consistency of proposed developments with Coastal Act policies regarding development in areas subject to hazards has been that development has continued to occur despite periodic episodes of heavy storm damage or other such occurrences. Development in such dynamic environments is susceptible to damage due to such long-term and episodic processes. Past occurrences statewide have resulted in public costs (through low interest loans, grants, subsidies, direct assistance, etc.) in the millions of dollars. As a means of allowing continued development in areas subject to these hazards while avoiding placing the economic burden for damages onto the people of the State of California, applicants are regularly required to acknowledge site geological risks and agree to waive any claims of liability on the part of the Commission for allowing the development to proceed. Special Condition #2 requires that the Applicant agree to such an assumption of risk.

2. Public Access and Recreation

Coastal Act Section 30604(c) requires that every coastal development permit issued for any development between the nearest public road and the sea "shall include a specific finding that the development is in conformity with the public access and public recreation policies of [Coastal Act] Chapter 3." The proposed project is located seaward of the first through public road, on the beach. Coastal Act Sections 30210 through 30213, as well as Sections 30220 and 30221 specifically protect public access and recreation, and state:

> ***Section 30210:*** *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*
>
> ***Section 30211:*** *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*
>
> ***Section 30212(a):*** *Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects…*
>
> ***Section 30213:*** *Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. …*
>
> ***Section 30220:*** *Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.*
>
> ***Section 30221:*** *Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.*

Coastal Act Section 30240(b) also protects parks and recreation areas such as Monterey State Beach. Section 30240(b) states:

> ***Section 30240(b).*** *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Del Monte Beach LUP Public Access Policies 9 & 10 state:

> *9. Signage clearly indicating the location of coastal access points shall be provided at the points shown in Figure 6, and shall include, where possible, signage from the beach to the Recreation Trail. Adequate signage shall be required upon development of new access. Placement and maintenance shall be according to the following: a) Signs shall be maintained and replaced when necessary so that they are readable. b) Signage shall be provided where essential; sign clutter shall be minimized.*
>
> *10. Existing lateral access along the entire length of the LCP area beachfront shall be protected and maintained at currently available widths at a minimum, and widened where feasible.*

Del Monte Land Use Plan Recreation and Visitor-Serving Facilities Policy 1 provides for protection of

lower-cost recreation at the State Parks property that is directly adjacent to Ocean Harbor House, and states:

> *1. The City shall encourage the State to improve lower cost recreational and parking facilities, including new restroom facilities, at the State owned beach west of the Monterey Beach Hotel, as soon as possible. This area is considered the major lower cost recreation facility for the LCP area.*

a. Background

Monterey remains one of the premiere tourist destinations in the United States, attracting an estimated four million visitors to the Monterey Peninsula annually. Many of these tourists, as well as local residents, make their way to the sandy beaches located in the Del Monte Beach LUP planning area. Two public recreation areas are located in the Del Monte Beach LUP area in the vicinity of the proposed project. The largest is Monterey State Beach, a portion of which is located immediately east of the project site (see Exhibit 2). The Department of Parks and Recreation (DPR) has estimated an average beach attendance at Monterey State Beach of nearly one million people per year. As described by DPR, Monterey State Beach provides beach-oriented recreation, including kayaking, kite-flying, volleyball and beachcombing. A portion of the Monterey Bay Coastal Trail (which will constitute a portion of the Monterey Bay Sanctuary Scenic Trail, an element of the California Coastal Trail) passes through the State Beach. The City-owned Del Monte Beach provides a seven-acre public beach area bayward of Tide Avenue, and includes the portion of beach seaward of Ocean Harbor House that will be eliminated due to passive erosion if the seawall is built. Facilities at the City beach include a sand volleyball court. A small turnout at the foot of Beach Way provides short-term and handicap parking, and on-street spaces provide daytime parking on Tide Avenue for access to the City beach.

Planned recreational facilities in the Del Monte Beach LUP area include the continued development of the adjacent State Beach as a day use beach facility. Preliminary plans for this area include formalized parking for 29 vehicles, a picnic area, a comfort station, controlled beach access, and an interpretive shelter with displays. Just downcoast of Ocean Harbor House, the approved Del Monte Beach re-subdivision will re-subdivide a total of 60 parcels (38 private and 22 public) into a cluster of 14 inland developable parcels, with the remaining seaward parcels merged and preserved as open space/habitat areas. The majority of the dune area seaward of Seafoam Avenue will be retained as open space. Boardwalks will be developed through this portion of the dunes, with two accesses from Beach Way and a single access from Spray Avenue down to the City beach.

Existing recreational activities occurring along the beaches in the vicinity of Ocean Harbor House emphasize the use of the sandy beach. Sunbathing, reading, relaxing, jogging, and walking on the beach and adjacent open sand areas are the most common activities. Swimming, surfing, and surf fishing also occur. Currently, beach users can walk the entire span of the beach in the City of Monterey from Wharf #2 to the Monterey Beach Hotel, a distance of about two miles. With the exception of storm events and high tides, when the beach is narrowed in some places, pedestrians can continue along the beach all the way to Moss Landing, for a total distance of 18 miles. Over time, however, construction of the proposed seawall will cause passive erosion that will result in the formation of a peninsula at Ocean Harbor

House. As detailed above, the geotechnical analysis of this project establishes that this will lead to the progressive loss of recreational beach land and reduction of lateral access in front of the proposed seawall. As this process continues, the percentage of time when use of the beach for recreation, as well as lateral beach access, is restricted will gradually increase until some point in the future when approximately 435 linear feet of lateral beach access in front of the seawall is completely eliminated (see Exhibit 15). Based on the analysis of the mean high tide over time, and defining the beach as that area between MHT and the OHH seaward property line, the geotechnical analysis shows a loss of approximately 1 acre of recreational beach over a 50-year period. The EIR considered the formation of the peninsula and the associated loss of beach to be a significant impact with no feasible mitigation measures to reduce this impact to a level of insignificance, other than the project alternatives discussed in Section III.C.1a above, which were determined to be infeasible.

There is a growing amount of literature concerning the tremendous economic and social value of California's beaches. As discussed in more detail below, in addition to the more qualitative social benefits of beaches (aesthetic, experiential, habitat values, etc.), beaches provide significant direct and indirect revenues to local economies, the state, and the nation. There is little doubt that the loss of one acre of sandy beach in an urban area such as Monterey represents a significant impact to public access and recreation, including a loss of the social-economic value of this recreational opportunity. As mentioned, nearly a million people a year have visited the Monterey State Beach area that runs from the Monterey Harbor to Sand City in recent years. There are undoubtedly substantial benefits being provided to these users of the beach resource. The question becomes how to adequately mitigate for the impact of the loss of one acre of beach, and in particular, how to determine a reasonable value of this impact that could serve as a basis for mitigation, in light of the absence of actual feasible mitigation measures to maintain or create equivalent beach resources at or near the project site.

Mitigating the Loss of Recreational Beach Area.

In terms of the projected loss of lateral beach access in front of OHH, the Applicant originally proposed development of an elevated public walkway along the project frontage (a cantilevered walkway incorporated into the seawall structure) to maintain lateral public access adjacent to the beach and ocean. The City, however, had concerns about this option given that it would encroach over City beach property. Also, the walkway would need to be closed during periods of high wave action due to safety concerns. In addition, uplift forces from waves could damage or destroy the walkway structure. The current proposal includes access through the Ocean Harbor House parking lot, which would connect to the City beach and park on the west and the State beach on the east (see Exhibit 8). No proposal to address the loss of recreational beach area, though, other than the potential formation of the GHAD, has been offered by the applicants.

As discussed in Section III.C.1a above, there are no feasible alternatives to the proposed project. Lateral beach access seaward of Ocean Harbor House will remain at certain times for a number of years after development of the proposed seawall (especially at low tide), but eventually this access will be completely lost due to the peninsula effect (see Exhibit 15). Although the proposed lateral access through the Ocean Harbor House parking lot is not ideal in that it is not located on the beach and does not provide any beach or ocean views, it is the only feasible option that will provide a lateral connection

between the State beach and the City beach during the entire year, consistent with public safety. To ensure that this access is optimal, Special Condition #3 requires submission of an access plan, including signage to direct the public to the parking lot access, as well as the hours that the access is available to the public, consistent with adjacent City beach time restrictions.

As discussed in Section III.C.1b above, the volume of sand that approximates the area of beach land lost to the project can be calculated (38,200 to 44,700 cy); if this sand volume and current market prices for sand were to be used as a basis for an in lieu fee to mitigate the loss of recreational beach area, the fee would range from approximately $1,031,400 to $1,206,900. However, as discussed, no formal beach nourishment and mitigation program is in place in the southern Monterey Bay area. Moreover, although this fee estimate is based on a quantifiable, site-specific volume of sand and market condition, this estimation of the beach loss through a sand volume calculation does not really address the recreational value of the anticipated one-acre of beach loss. Indeed, the primary impact of loss of sand at the project site will be on public access and recreation because of the eventual formation of a peninsula with complete loss of approximately 435 linear feet of lateral access and recreational opportunities on this portion of an urban, heavily used beach. While the proposed access through the Ocean Harbor House parking lot will connect the City park and beach with the State Beach, this access is not qualitatively equivalent to the existing lateral beach access in front of Ocean Harbor House. This is because the proposed parking lot access is located inland and away from the ocean, both physically and visually. In addition, current recreational activities available on the public beach in front of the condominiums, such as sunbathing, beachcombing, and surf fishing, will not be accommodated on the path through the parking lot. Also, the eventual formation of a peninsula at Ocean Harbor House will create a major impediment to through beach access along 18 miles of shoreline from Moss Landing to Wharf #2 in Monterey. Thus, the loss of sand seaward of the condominium complex will mean a significant loss of recreational beach use and lateral beach access. Other methods for mitigating this loss must be considered.

b. Real Estate Value Mitigation

Another possible way to determine an appropriate mitigation fee for the project's impacts to public beach area is to estimate the amount of money required to purchase and set aside from development approximately 1 acre of beach property somewhere else along the California coast.[8] To do so, Commission staff has evaluated the average value of beach property on a number of properties in the Monterey Bay area and in Malibu as a way to gauge the cost of providing an equivalent amount of recreational beach area to that which will be lost over the life of the project. For example, on the low end, the Taggert property is a 7.4-acre parcel in Monterey County near Moss Landing. The property is for sale with an asking price of $1,850,000.00, which averages out to $250,000.00 per acre. This property, however, is largely undevelopable because a large portion of the property consists of wetlands in the form of saltwater marshes. The constraints of this site are presumably reflected in the relatively

[8] The existing distance from the mean high tide line to the buildings is approximately 100 feet (as shown in Exhibit 15); the linear distance along the Ocean Harbor House property line is approximately 435 feet; 100 feet x 435 feet = 43,500 sq. ft. (the size of the existing beach at mean high tide); one acre = 43, 560 sq. ft.

low asking price per acre. In addition, the Taggart property beach is located in a rural area, almost 18 miles from Ocean Harbor House. Because of its rural location and the predominance of saltwater marsh in the immediate vicinity, the beach on the Taggart property sees much less recreational use than the beach at Ocean Harbor House, which is located in a highly urbanized area in the City of Monterey. It is, therefore, not as highly valued as a recreational resource based on cumulative demand.

In Santa Cruz County, Commission staff evaluated the land value and acreage for 13 properties that have sold in the last five years along Beach Drive in Aptos. These properties are either located directly on the beach or are located just inland of Beach Drive. For the 13 properties that sold in the last five years, the average land value was $1,034,466.00 for an average 6,001 square foot parcel. This equates to $7,389,043.00 per acre. Of course, these parcels are being sold for the purpose of beachfront residential development. Nonetheless, they do represent an estimate of how much value the market places on properties that could potentially become shorefront recreational land. The higher value may be a function of the relatively higher beach attendance in Santa Cruz County, which may also be a function of the different local beach climate relative to the Monterey Peninsula's climate.

A third example is the Lechuza property in Malibu. A total of 18 houses were proposed on 2.34 acres located on a sandy beach cove. The Commission denied the application for the houses. Ultimately the State purchased the property for $12,000,000.00, with the intent of removing the development rights and opening up the property to public access and recreation uses. This purchase price is equivalent to $5,128,205.00 per acre. Obviously beachfront properties in Malibu are highly desirable real estate.

A local public agency is currently in the process of selling approximately one acre of beachfront/dune property in Sand City to State Parks for $1 million. This property will be added to the State Parks system for public use. This transaction is relatively near the OHH project site. Also, in 2000 and 2002 the City of Monterey purchased, for public use, the west and east "Catellus" commercial coastal properties, respectively. These parcels are adjacent to the Window-on-the-Bay waterfront park and Wharf #2, just downcoast of Ocean Harbor House. The combined cost for both parcels, which total 7 acres, was $7 million, or $1 million per acre.

Finally, there have been a number of property transactions in recent years for vacant residential parcels immediately downcoast of OHH. Some of them have included sandy beach area between the mean high tide line and the foredune, and some of them are immediately adjacent to the shoreline. The Monterey Peninsula Regional Parks District reports purchasing parcels at this Del Monte Beach location in the 1990s for between $50,000 and $70,000, with the lots closest to the beach costing $70,000. The lots were 3,600 square feet, which equates to $847,000 per acre for the $70,000 beachfront lots. The price of such lots would no doubt be substantially higher today.

As can be seen from the data above, the price per acre for beach property in California can vary greatly. This variation is likely due to the location and developability of the parcel in question. Thus, it is difficult to determine, with any great accuracy, the average purchase price for one acre of beach property along the California coast. There are data available for shorefront property in the immediate vicinity of the project that suggest that the value of an acre of recreational land in the real estate market could be approximately $1,000,000. However, it is also possible and likely that the cost of an acre of beachfront

property in the vicinity of this project will be significantly higher than $1,000,000. Although it would be ideal if a specific mitigation project was available, other problems arise with this method in that if an Applicant is required to purchase a specific property to set aside from development, this will involve a third party (the property owner) who may not be amenable to the sale. If the Applicant is not required to purchase a specific property, however, the required mitigation fee could be applied to a dedicated fund that will provide for the purchase of beachfront/dune property for public recreational use in the southern Monterey Bay area within 10 years of project construction. In the event that any portion of the fee remains after this time, it would be donated to State Parks or other acceptable organization to provide for coastal public access and recreation improvements in the southern Monterey Bay area through the acquisition of coastal trail right-of-way and/or the construction of coastal trail improvements.

c. Economic Beach Valuation Mitigation

Another possible way to determine an appropriate mitigation fee for the project is to estimate the economic recreational value of the beach in front of Ocean Harbor House, which eventually will be lost due to construction of the seawall. Most people recognize that the ocean and the coastline of California contribute greatly to the California economy through activities such as fishing, tourism, recreation, and other commercial activities. There is also value in just spending a day at the beach and having wildlife and clean water at that beach, the aesthetics of an ocean view, and being able to walk along a stretch of beach. Over the past few decades, economists have developed tools and methods to value many of these market commercial and "non-market" environmental resources, to quantify their values, and to include these values in cost-benefit equations. The results of a number of studies to quantify the economic value of beaches to the state have been published in recent years.[9] In addition to identifying market benefits, such as the income to local governments and economies of the tourist/beach-related economy, significant efforts have been made recently to identify the individual "consumer surplus" that beaches provide. For example, Pendleton (2001) found that a number of attributes exist that enhance the enjoyment of beachgoers and thus increase the probability that individuals will choose a particular beach. These attributes include recreational facilities (e.g., volleyball nets or surfboard rental shops), as well as wide, sandy beaches. Pendleton also found that other beach attributes may be dis-amenities, i.e., attributes that degrade visitor welfare and therefore decrease the probability that a particular beach will be visited, such as the presence of trash and/or beach hazards.

Lipton (2001) reports that in 1992 the state of California conducted its first-ever analysis of the economic contribution of seven ocean-dependent industries. The results showed an economic contribution of $17.3 billion, directly funding 370,000 jobs in the state. At $9.9 billion, tourism

[9] Pendleton, L. 2001. *Managing Beach Amenities to Reduce Exposure to Coastal Hazards: Storm Water Pollution.* Coastal Management 29:239-252; Lipton, D. January/February 2001. *How Much is This Beach Worth? Calculating the Value of the Environment.* NOAA Coastal Services Magazine; Houston, J.R. 2002. *The Economic Value of Beaches – A 2002 Update.* Shore & Beach 70-1:9-12; King, P. 1999. *The Fiscal Impact of Beaches in California.* San Francisco State University: Public Research Institute; Chapman, D. & W. M. Hanemann. 2001. *Environmental Damages in Court: The American Trader Case.* The Law and Economics of the Environment 319-367; Leeworthy, Vernon R. & Peter C. Wiley. March 1993. *Recreational use value for three southern California beaches.* NOAA Strategic Environmental Assessments Division, Rockville, MD. Office of Ocean Resources & Conservation; Lew, Daniel. 2002. *Valuing Recreaton, Time, and Water Quality Improvements Using Non-Market Valuation: An Application to San Diego Beaches.* Doctoral Dissertation, University of California, Davis.

accounted for more than half of the coast's economic contribution to the state. Lipton also states that the study just scratched the surface of the ocean and coastal environment's total economic value. Lipton quotes Brian Baird, California Ocean Program manager of the California Resources Agency in 2001, as stating "I think if we were to have information about the true value of a beach, or information on people's willingness to pay for the resources, we would see substantially larger and more inclusive numbers."

Houston (2002) found that travel and tourism is America's largest industry and employer, and that beaches are the largest factor in travel and tourism. Houston also reports that California beaches alone have more tourist visits (567 million) than combined tourist visits (286 million) to all 346 National Park Service properties and visits (106 million) to all Bureau of Land Management properties that cover 287 million acres, or about one-eighth of the land of the United States. In addition, Houston reports that California State Beaches, which account for only 2.7% of California State Park holdings, account for 72% of State Park visits. King (1999) showed that California beach tourism makes a total direct and indirect contribution of $73 billion to the national economy, more than five times the $14.2 billion contribution of the National Park Service system. Given these numbers, it becomes clear that beach erosion and beach loss are serious threats to state and national beach tourism and therefore a threat to the state and national economies.

Coastal recreation is undertaken by local residents, by California residents who travel to the coast, and by residents of other states and countries. Recreation may impact the California economy by as much as paying for accommodations at a luxury hotel in Santa Barbara, or as little as the purchase of a hot dog on the beach at Santa Monica. The variety of expenditures on day trips to the beach may include gasoline and automobile costs, parking and entrance fees, food and drink from stores, visits to nearby restaurants, beach equipment rentals, etc. In addition, overnight trips to the beach include beach-related lodging expenses.

In addition to market expenditures, day trips to the beach generate another economic value for the coastal and ocean economy, i.e., the non-market consumer surplus value. The consumer surplus of beach visits is the value visitors place on beach visits above and beyond what they actually spend at the beach. Because of the generally low cost of beach access and the significance of beach recreation to Californians, many studies have estimated the consumer surplus of beach going in California to better measure the true value of beaches in the state. A common and well-accepted method for determining the recreational value of a beach is to use the travel-cost method to identify how much people spend to get to the beach. From this data, a demand curve for the beach can be derived that can be used to identify the consumer surplus of the beach. If one knows how many visits to a beach resource occur, one can begin to place an economic value of the resource.[10]

To determine an adequate mitigation fee for the loss of the beach in front of Ocean Harbor House due to construction of the seawall, it is necessary to determine general beach attendance in the area as well as an average daily beach expenditure/non-market consumer surplus value per-person. An important piece of the beach valuation method is the identification of consumer expenditures related to beach recreation.

[10] See, for example, http://www.ecosystemvaluation.org/travel_costs.htm.

Of the various studies done regarding California beach economics, none focuses on beach expenditures in the Monterey Bay area. King (1999), however, conducted surveys in southern California to determine the spending habits of visitors to Huntington Beach. The data were collected in 1999 from local visitors, in-state visitors who live greater than 60 miles from the beach, out-of-state visitors, and out-of-country visitors for five different sections of the beach, i.e. the Huntington Beach Pier, City Beach, North of the Pier, Huntington State Beach, and City Beach South End. The average daily expenditure per person varied from a low of $5.77 at the City Beach South End to a high of $23.41 at the main City Beach. The average expenditure at all five sections of beach was $13.00 per person.

In other studies, non-market consumer surplus estimates range from a low of $10.98 (in 2001 dollars) for visits to Cabrillo Beach in Los Angeles County to a high of greater than $70.00 (in 2001 dollars) per person per trip for visits to San Diego beaches.

Chapman and Hanemann (2001) detail the economic issues raised in the case of the steam tanker American Trader, which spilled 416,598 gallons of crude oil off of Huntington Beach in 1990. The American Trader case went to trial and resulted in the first jury verdict for natural resource damages ever delivered in the United States. At the trial, the impacts of this disaster to general beach recreation and surfing constituted the bulk of the State's recreation claim regarding economic losses arising from the oil spill. The jury based its decision partly on a 1986 estimate of a consumer surplus of $10.23 per person-day, adjusted for inflation to $13.19 per person per beach trip at the time of the spill. Based on the estimated attendance data, the estimated lost beach recreation value presented to the jury was over $10,000,000.

As shown above, coastal recreation has a dramatic impact on the economies of California and the nation as a whole. Thus, loss of beach due to shoreline protection of private property can have a detrimental impact on these economies. With respect to the economic value of Monterey's beaches, there have been no specific economic studies done regarding the per-person beach expenditures in the Monterey area. However, the American Trader case determined an approximate per-person consumer surplus value of $13.00 per day in the Huntington Beach area. Given even the low rate of inflation, this amount would be $1 to $2 higher today. Although the beaches in the City of Monterey are not as highly developed as Huntington Beach, there are kayak and other rentals available, a large beachside hotel exists, as well as a number of other visitor amenities (restaurants, shops, etc.) nearby. In addition, the beaches in Monterey have a high non-market consumer surplus value because of the generally wide, sandy quality of the beaches, and their location in an urbanized area that is an extremely popular visitor destination along the Central California coast. The $13.00 figure is probably a reasonable estimate for the consumer surplus of the beaches in the Monterey area. More recent research suggests that the figure will be somewhat lower for Southern California beaches, but given the relatively shorter beach in Monterey, $13.00 is reasonable.[11] For these reasons, the Commission finds that a $13.00 per-person per-day average beach expenditure is a reasonable and conservative estimate for the Monterey area.

Monterey State Beach consists of three separate beaches approximately two miles apart (City beaches and the Naval Postgraduate School (NPGS) beach are interspersed among these three sections of

[11] Personal communication with Dr. Linwood Pendleton, UCLA, September 27, 2004.

Monterey State Beach). The first section of Monterey State Beach extends from the edge of the municipal beach near Wharf #2 to the Naval Postgraduate School property (see Exhibit 2). The second portion begins directly adjacent to the eastern portion of the Ocean Harbor House property and extends to the Monterey Beach Hotel. The third section begins north of the Monterey Beach Hotel in the City of Seaside and extends to the City of Sand City. According to State Parks, activities along the three sections of Monterey State Beach (and thus at the interspersed City and NPGS beaches) include walking, beachcombing, kite-flying, volleyball, surfing, and kayaking. Fishing is also popular. According to State Parks data, the average estimated annual attendance at Monterey State Beach between 2001 and 2004 equaled 968,287 visitors. This estimate is based on extrapolations from car counts taken at the Monterey State Beach parking lot in Seaside. Thus, the estimate may be conservative because it may not include out-of-town beachgoers who park elsewhere, residents in the Del Monte Beach area who walk to the beach, beach users at the Monterey Beach Hotel who use the hotel's parking lot, etc.

The beaches between Wharf #2 and Sand City are functionally interrelated whether they are officially state beach, city beach, or NPGS beach. People using these beaches regularly traverse between the state beaches, the city beaches, and the NPGS beach. Ocean Harbor House is located approximately midway along the 2.5-mile stretch of beach between Wharf #2 and Sand City. To calculate the recreational economic value of an acre of beach between Wharf #2 and the end of Monterey State Beach at Tioga Avenue in Sand City, we need to determine the amount of beach acreage (as opposed to restored dune habitat, which is not available for active recreational use) present along this 13,200-foot (2.5-mile) stretch of beach. Then it is necessary to determine the number of visitors per acre of beach, based on State Parks attendance data. Finally, it is necessary to apply a per-person combined market value/economic surplus value for the average number of visitors per acre of beach. As stated above, the beach between Monterey State Beach at Wharf #2 and Monterey State Beach in Sand City is approximately 2.5 miles in length. Given an estimated average summer beach width of 200 feet (this amount includes only beachfront land, not dune habitat), this stretch of beach consists of approximately 60 acres of beach.[12] The number of yearly visitors per acre of this 13,200-foot stretch of beach is thus 15,978,[13] which is equivalent to an average of 44 daily visitors per acre of beach.[14] Given a $13.00 per-person per visit surplus for beachgoers, an acre of beach in this area would be valued at $207,714 per year. [15]

The existing beach in front of Ocean Harbor House is approximately one acre in size.[16] According to the Applicant's engineer's estimate (Exhibit 15), the entire beach in front of Ocean Harbor House will be eliminated completely by 2054, for both the summer/fall and winter/spring profiles. Thus after

[12] 13,200 ft. x 200 ft. = 2,640,000 sq. ft.; 2,640,000 sq. ft./43,560 sq. ft per acre = 60.6 acres.

[13] 968,287 annual visitors/60.6 acres of beach = 15,978 annual visitors/acre of beach.

[14] 15,978 annual visitors/acre of beach divided by 365 days/year = 43.77, or 44 daily visitors/acre of beach.

[15] $13.00/person x 15,978 persons/acre/year = $207,714/acre/year.

[16] The distance from the mean high tide line to the buildings is approximately 100 feet; the linear distance along the Ocean Harbor House property line is approximately 435 feet; 100 feet x 435 feet = 43,500 sq. ft. One acre = 43, 560 sq. ft.

construction of the seawall, an average of 870 sq. ft. of the existing beach will be lost annually. [17]

A loss of 870 sq. ft. of beach per year is equivalent to an economic loss of approximately $4,148 per year.[18] Thus, in the first year an appropriate mitigation fee would be $4,148. In the second year, another 870 square feet of beach would be lost due to development of the seawall, in addition to the original 870 square feet of beach that remains lost from the first year. Thus, in the second year, an appropriate mitigation fee would be $8,296. Each successive year would add another $4,148 to the total from the previous year's total because the project will need to mitigate for the cumulative beach loss over time. Thus, after 50 years, the cumulative fee paid over those 50 years would equal approximately $5.3 million. At the end of 50 years, if the seawall remained in place, the annual fee thereafter would be equal to that required in year 50, i.e., $207,411. In addition, if the mitigation fee were to be paid over time instead of a one-time amount up front, the mitigation fee would need to be tied to the Consumer Price Index (CPI) to account for inflation over the life of the project. Of course, if the cumulative fee were paid in year one, the present value of the fee would be much lower.

d. Conclusion

The proposed project will result in the eventual loss of approximately one acre of public beach in front of Ocean Harbor House. The Applicant has not proposed any mitigation for this impact that the Commission finds would result in adequate mitigation for this loss of public beach. The Environmental Impact Report for the project and Commission staff analyzed a variety of project alternatives, some of which would maintain the recreational beach area at this location (see Exhibit 9), and found that these alternatives are infeasible. In addition, there are no feasible mitigation options for supplementing beach area in the near vicinity of the proposed project. Given that there are no feasible mitigation options to maintain or create beach onsite or offsite, the Commission is requiring payment of an in-lieu fee by the Applicant as partial mitigation for the loss of public recreational beach area due to the proposed project (nothing will fully mitigate the beach loss caused by the proposed project). This in-lieu fee will be used to acquire new public recreational land in the vicinity of the project.

There are a variety of ways of placing a specific value on beach land. As discussed above, one method includes determining a beach sand volume that represents the area of lost beach, and converting this to a dollar figure based on the cost of sand. This method, though, which results in a fee of approximately 1.5 million dollars, is not directly tied to the recreational value of the land. Yet, the sand volume fee is likely a very conservative estimate of the cost of mitigating actual beach loss, given that it is based on a one-time mitigation of a specific amount of sand being placed on the beach. To retain the beach in front of Ocean Harbor House, this mitigation would have to be repeated numerous times over the 50-year life of the project because high tides and storm surge wave run-up would regularly remove this sand from the beach. In addition, this mitigation is not feasible because there is not an existing sand replenishment program in the southern Monterey Bay area.

[17] 43,500 sq. ft./50 years = 870 sq. ft./year

[18] 870 sq. ft./year divided by 43,560 sq. ft./acre = 0.019972 acres of beach loss per year due to construction of the seawall; 0.019972 acre x $207,714/acre/year = $4,148 year economic value lost due to the seawall.

The second method involves determining the real estate value of beachfront properties. This method includes a high variability of land values due to location of the property for sale, e.g., urban areas are more expensive than rural areas. This method suggests that it could potentially cost approximately $1,000,000 for an acre of recreational land in the vicinity of the project. However, due to the variability of land values and the high value of beachfront property, it is equally likely that an acre of recreational beachfront land will cost much more than $1,000,000. Furthermore, this method does not adequately reflect the value of what is being lost, particularly the recreational value of the beach area over time, and would instead effectively represent a devaluation of public beach land.

The third method is determining the economic value of a beach due to its recreational significance. This method is the most attractive method because it is based on an analysis of actual beach recreational values in the vicinity of the project. This method is a more accurate reflection of what the state is actually losing as a result of this project. However, it also requires assumptions about the consumer surplus of a beach for beach goers. There is a growing amount of study-based literature available that establishes the significant market value of beaches to local, state, and national economies, as well as the intuitive non-market value of beaches for consumers. The methods used in these studies rely on current economic theory and application of beach valuation methods that have been conducted in southern and central California. The results of these studies have been used by the National Ocean & Atmospheric Administration, the Army Corps of Engineers, the National Park Service, etc., for valuing beach recreational land. The method, though, is likely conservative (underestimates) because it does not account for the value of non-quantifiable benefits of the recreational beach resource. Nor does it include other benefits such as potential habitat and aesthetic values. As explained above, after 50 years, the cumulative fee paid would equal approximately $5.3 million. This fee would need to be adjusted for inflation as well, if implemented over the full 50-year life of the project. Also, after 50 years, if the seawall remained in place, the Applicant would need to continue to pay a yearly fee equivalent to that required in year 50. Of course, if the cumulative fee were paid in year one, the present value of the fee would be much lower.

Overall, as mentioned, the project EIR concludes that relocation of the most seaward condominium units would be the least environmentally damaging alternative. Nonetheless, the Commission finds that there are no feasible alternatives to protect the existing threatened condominium buildings at this location that would avoid some form of shoreline armoring that would also be consistent with the Coastal Act. In addition, there are no feasible mitigation options to actually maintain or create a new recreational beach in front of the OHH, and no specific new potential public recreational land in the vicinity of the project has been identified by the Applicant to mitigate the loss anticipated at the site. Without mitigation for this impact, though, the project cannot be found consistent with the Coastal Act requirement to protect maximum public access and recreation to and along the shoreline. The Commission is therefore requiring that the Applicant pay an in-lieu fee equivalent to the $5.3 million fee based on the economic beach valuation method as described in Section III(C)(2)(c) of this report (see Special Condition #4). This fee shall be paid (beginning prior to commencement of construction activities pursuant to a fee schedule approved by the Executive Director) to the Monterey Peninsula Regional Parks District (MPRPD) for acquisition of shorefront land in the vicinity of OHH, to be used for public recreation. In light of the details concerning discounting for present value and adjusting for inflation, the Commission

delegates to the Executive Director the decision of whether the fee shall be paid up front or over time. There is no doubt that recreational beach resources in Monterey generally have a tremendous market and non-market social value. To address the specific value of the recreational beach land loss due to the project, the Commission has considered three different methods to estimate at least some of the quantifiable aspects of public recreational beach land value at this location. This includes consideration of the real estate market value of an acre of beach in the vicinity of OHH, the cost of supplying an amount of beach sand roughly equivalent to the beach area lost due to the project, and an economic valuation based on the estimated recreational value of the beach to individual consumers. The Commission is imposing a mitigation fee based on the economic beach valuation method because it is the method that most reflects the value of the beach lost as a result of the project. Thus the fee is both reasonably related, and roughly proportional, to the anticipated impact of the seawall on public recreational beach land. Overall, though, this fee must be considered only partial mitigation for the impacts of the proposed project, since no measure can prevent the loss of the existing recreational beach currently fronting OHH. In addition, while the application of the fee is intended to result in the acquisition of new public recreational land, given the contingencies of the real estate market and available land in the vicinity of the project, future acquisition of sandy beach area between the surf zone and the foredune, which is the type of land being lost due to the seawall, cannot be guaranteed. Still, with the required mitigation fee, the Commission can find that the project is consistent with the Coastal Act.

There are a number of ways the mitigation fee could be paid, including amortized and paid over the 50-year life of the project or the present-day value of the fee could be paid upfront prior to commencement of construction. There are several reasons why payment of the entire fee prior to commencement of construction activities may be desirable: 1) requiring payment of the fee upfront provides mitigation concurrent with the development of the seawall and the associated benefit for the Applicant; 2) if the mitigation fee were required to be paid over time as beach area is lost, it would take many years for the fee to equal an amount that would be substantial enough to provide a meaningful opportunity for the purchase of beachfront property for public use; 3) if the fee were collected over time as the beach erodes, the fee would need to be adjusted annually for inflation (e.g., tied to the Consumer Price Index), and; 4) obtaining the entire fee upfront prior to commencement of construction activities will eliminate the administrative costs and efforts of ensuring that the correct fee is collected and paid into the proper account on a yearly basis. Nonetheless, in light of the details involved with determining the present value of the fee and/or adjusting for inflation over time, the Commission delegates this determination to the Executive Director, while also finding that the fee should be used to acquire beachfront property.

In the 30 years since its inception, MPRPD has preserved and protected over 20,000 acres of parklands and open space in Monterey County. While Garland Ranch Regional Park, located in Carmel Valley, and the Monterey Bay Coastal Trail are the most notable, there are many lesser known District parks and preserves that contribute significantly to the quality of life for local residents and visitors alike. Examples of these in the vicinity of Ocean Harbor House include 35 acres of previously industrially-used dunes purchased by a coalition of agencies in 1991 and added to Monterey State Beach, as well as the Landfill Dune Preserve in Sand City, which consists of beach and restored coastal dune habitat, and includes a section of the Monterey Bay Coastal Trail along the bluff top of the property. MPRPD

personnel have expressed interest in purchasing additional beach and dune habitat property in Sand City, which is located approximately one mile upcoast from the Ocean Harbor House condominiums. In the near future almost half of Sand City's dunes are expected to be acquired by the Park District and turned over to State Parks for restoration and addition to the Monterey Bay State Seashore for open space and recreational use, as well as for endangered species habitat.

Nothing can completely mitigate for the loss of the beach in front of Ocean Harbor House due to development of the proposed seawall. Thus, the above-discussed mitigation fee only partially mitigates for the loss of public beach in front of Ocean Harbor House due to development of the seawall and is based on an estimated 50-year life of the project. If the seawall continues to exist after 50 years, additional mitigation will be necessary to help offset the continuing impacts to public access that will result if the seawall remains in place after 50 years. Special Condition #10 requires that the Applicant maintain and repair the seawall as necessary for the life of the project, and also requires the Applicant to apply for a coastal development permit (CDP) for each repair and maintenance episode. Thus, the appropriate time to assess additional mitigation fees for continued loss of public access and recreation use beyond the first 50 years of the seawall's existence will be at a time in the future when the Applicant applies for a CDP for repair and maintenance of the seawall.

In addition to the access impacts discussed above, the proposed seawall project will require the movement of large equipment, workers, and supplies through State Parks property and the public City beach to complete the six phases of the project. Impacts to access and recreation from construction activities include: large equipment operations on the recreational beach area fronting the site; loss of recreational beach area to a construction zone (at the immediate project area); potential encroachment on Sanctuary waters (depending on tides); and general intrusion and negative impacts on the aesthetics, ambiance, serenity, and safety of the recreation beach experience. These impacts can be contained through construction parameters that limit the area of construction, limit the times when work can take place (to avoid weekends when recreational use is highest), clearly fence off the minimum construction area necessary, keep equipment out of Sanctuary waters, require off-beach equipment and material storage during non-construction times, and clearly delineate and avoid to the maximum extent feasible beach use areas. A construction plan is required for this purpose (see Special Condition #5). In addition, Special Condition #6 requires that the beach area be restored to its original configuration immediately following construction, to limit these impacts. Finally, Special Condition #16 assures that future owners of condominiums will have notice of all the terms and conditions of this approval, including the public access and recreation conditions, by requiring a deed restriction designed to record the project conditions against the affected property. With these conditions, the public access and recreation impacts of the proposed seawall project are mitigated to the maximum extent feasible.

3. Visual Impacts

Coastal Act Section Coastal Act Section 30251 provides for the protection of scenic and visual qualities of the coast and states, in part:

> ***30251.*** *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect*

views to and along the ocean and scenic coastal areas, to minimize alteration of natural land forms, to be visually compatible with the character of surrounding areas, and where, feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated… by local government shall be subordinate to the character of its setting.

Similarly, Coastal Act Section 30240(b) also protects parks and recreation areas from significant visual degradation. Section 30240(b) states:

30240(b). *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Del Monte Beach LUP Visual Resources Policies 4 & 5 state, in part:

4. To enhance their aesthetic value, sand dunes throughout the LCP area shall be protected or restored where feasible, depending on their current condition including:… b. restoration and replanting of dunes within open space areas on the State Parks beach property, the City Beach property and the open space/habitat areas of the Del Monte Beach resubdivision (see Policy 1 in Environmentally Sensitive Habitat Areas section).

5. The lateral views along the shoreline shall be protected and enhanced by preserving the continuity of the beach, and, where feasible, widening the eventual open space strip along and behind the beach…

The Del Monte Beach LUP area shoreline is crescent shaped, with lateral views upcoast and downcoast readily available. The seaward units of the Ocean Harbor House condominium development are highly visible from many points on the beaches in Monterey, Seaside and Sand City, including from Monterey State Beach. The project site is in the regional viewshed of the Monterey Bay. The Del Monte Beach LUP recognizes the beach zone interface between the Bay and the shoreline land as the dominant landscape element of the area's aesthetic character. Two public use areas, the State Parks land adjacent to the site on the east and the directly adjacent City of Monterey beach provide the most accessible public Bay viewing points in the Del Monte Beach LUP area.

The project description includes the complete removal of the riprap revetment (see Exhibit 3) from the public beach directly seaward of the oceanfront condominium units. In addition, the seawall will be located completely on the Applicant's property and will be directly adjacent to the existing foundation of the condominium complex. The seawall will also be textured to mimic a bluff face to lessen its visual impact (see Exhibit 10). Thus, initially, the immediate result of the proposed project will provide a beneficial impact due to the removal of the large, unsightly riprap development and development of a less visually obtrusive seawall. Over time, however, the protective seawall will cause passive erosion, resulting in a peninsula effect, leading to the gradual loss of the beach in front of the seawall. Thus, the beach fronting the seawall structure will be permanently lost. In addition to the public access and

recreation impacts of the peninsula formation, there will be an impact to the visual character of the site as the beach is gradually lost in front of the seawall and the shoreline moves landward on either side of the development.

Although the Ocean Harbor House complex (as well as the existing riprap) on the edge of the dunes somewhat disrupts the continuity of the shoreline, there is a strong sense of open space due to the continuous unobstructed beach. This continuous beach is considered to be an important contribution to the visual character of the area. The loss of this continuity through the anticipated peninsula effect of the proposed seawall was determined to be a significant unavoidable impact in the EIR, with no feasible mitigation measures available to compensate for the long-term visual impact, other than alternatives to the project (which have been determined to be infeasible – see Section III.C.1a above). The Applicant has provided visual simulations that show the proposed seawall colored and textured to mimic a bluff face (see Exhibit 10). This will reduce the visual impacts of the seawall to some extent, although it will not be possible to fully mitigate the visual impacts given that the surrounding area is composed of sand dunes and not solid bluffs or cliffs. However, to reduce the visual impacts of the proposed seawall as much as possible, Special Condition #7 requires that the seawall be faced with a sculpted concrete surface that mimics, to the greatest extent feasible, the color and texture of the adjacent sand dunes. In addition, Special Condition #8 requires that after a small test section has been faced and allowed to cure to its final expected color, configuration, and texture, the Permittee shall notify Commission planning staff to arrange for a site visit to verify that the seawall facing approximates the approved expected finished facing product required in Special Condition #7. Furthermore, to soften the look of the seawall, Special Condition #9 requires that planter boxes be incorporated along the top of the seawall and that these planter boxes be planted with native, cascading plants that tolerate seaside conditions. Finally, Special Condition #10 requires that the Applicant maintain the new seawall, including the visual treatments and cascading landscaping, for the life of the project. With these conditions, the visual impacts of the proposed seawall project are mitigated to the maximum extent feasible.

4. Environmentally Sensitive Habitat

The Coastal Act is very protective of sensitive resource systems such as dunes and other environmentally sensitive habitat areas (ESHAs). The Coastal Act defines environmentally sensitive areas as follows:

> ***Section 30107.5.*** *"Environmentally sensitive area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.*

Almost all development within ESHAs is prohibited, and adjacent development must be sited and designed so as to maintain the productivity of such natural systems. In particular, Coastal Act Section 30240 states:

> ***Section 30240(a).*** *Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be*

allowed within those areas.

Section 30240(b). *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Del Monte Beach LUP Environmentally Sensitive Habitat Policies 1, 2, & 4 state, in part:

1. Environmentally sensitive dune habitat areas shall be protected from development and fragmentation by implementing protection standards. Protection standards shall include, but need not be limited to: a. Encouraging retention of open space through deed restrictions or conservation easements; b. Restricting land disturbance and the removal of indigenous plants to the minimum amount necessary for structural improvements; c. Requiring incorporation of appropriate mitigation measures such as setbacks, buffer strips, native landscape plans, drainage control plans and restoration plans; d. Requiring landscaping and maintenance with native coastal dune plants in development proposals and elimination of invasive non-native species, e.g. iceplant and dunegrass.

2. In areas of dunes habitat, a dune restoration program shall be required as a condition of approval for any new development…

4. For any proposed development in the environmentally sensitive habitat areas of the Del Monte Beach area, as shown in, but not limited to, Figure 3A, a resource survey shall be conducted, according to established protocols, for all sensitive species, including dune plants, snowy plover, black legless lizard, and marine mammals known to occur in the vicinity.

The Ocean Harbor House condominium complex is located in the Del Monte dunes portion of the Monterey Bay dune system (also known as the Seaside dune system). All substantial undeveloped areas within this strand of high dunes represent environmentally sensitive habitat, in various stages of disruption or recovery. Because the dune habitat ecosystem is a rapidly diminishing resource and is so easily disturbed, it is an acknowledged environmentally sensitive area. To properly recover and preserve viable dune habitat requires large contiguous tracts of dune for the establishment of a diverse native dune habitat.

Although much of the Monterey Bay dune complex has been disturbed, areas of high quality dune habitat remain. For example, extensive dune restoration has taken place on the Naval Postgraduate School property, which is located downcoast from Ocean Harbor House. In addition, State Parks has restored portions of the dunes on the Monterey State Beach property directly east of Ocean Harbor House. Construction activity for the proposed seawall will occur on the Ocean Harbor House property with construction/access zones located on City of Monterey property and State Parks property (see Exhibit 6, pp. 3-5), with possible detrimental impacts to these areas.

The area directly north of the seaward buildings at Ocean Harbor House, which is the area proposed for development of the new seawall, is dynamically active and devoid of vegetation and native dune habitat

due to natural erosion from tidal impacts and wave run-up, as well as the placement of existing riprap. However, construction of the proposed seawall will impact several vegetated areas, including an area adjacent to the City of Monterey dune restoration area, portions of the common areas between the seaward buildings, and a portion of the adjacent State Parks property, through which it will be necessary to access and remove riprap. A biological assessment determined that the total construction impact area would be approximately 8,500 square feet. Through field surveys, this assessment also determined that there were no endangered, threatened or listed plant species identified on the Ocean Harbor House property or the portions of the adjacent properties that will be impacted by construction. The proposed project includes restoration of the areas impacted by construction with native dune vegetation that will integrate with existing native dune vegetation on the City of Monterey and California State Parks properties (see Exhibit 11 for an outline of the proposed landscaping plan). The proposed landscaping plan is intended to improve dune habitat and provide sand stabilization. Restoration landscaping activities on the adjacent City Park property will be coordinated with the City after the proposed sanitary sewer line relocation and storm drain improvements are completed. Special Condition #11 requires submission of the dune restoration plan to the Executive Director for review and approval.

The western snowy plover (*Charadrius alexandrinus nivosus)* is a federally listed (threatened) shorebird known to use dune areas as nesting habitat. The intertidal zone and bare beach areas may be used as breeding and foraging areas. According to the EIR, snowy plovers were not found during a biologist's visit to the proposed project site and associated construction areas. The adjacent State Park land, however, has been known to support the snowy plover and is proposed as a Habitat Conservation Area for the protection of species of special concern, including the western snowy plover. According to USFWS, human activity continues to be a key factor adversely affecting snowy plover coastal breeding sites and breeding populations in California. Projects and/or construction activities that cause, induce, or increase human-associated disturbance during the plover's breeding season (March 1st to September 14th) adversely impact snowy plovers. To ensure that nesting snowy plovers are not disturbed by the proposed development, Special Condition #12 requires that construction activities for the seawall project commence after September 15th and that all construction activities shall be completed before March 1st, unless approvals are obtained from U.S. Fish & Wildlife Service, California Department of Fish & Game, and State Parks.

The proposed seawall project would occur in the range of the California black legless lizard, which is a state listed Species of Concern. Species of Special Concern are species that have been identified by the California Department of Fish & Game as having limited distribution or the extent of their habitat has been reduced substantially, such that threats to their populations may be imminent. These species may receive special attention during environmental review, but do not have statutory protection. The range of the black legless lizard is restricted to a small area of Monterey County; a second population has been recorded in the Morro Bay area. The lizards tend to inhabit areas of loose soil such as sand dunes and sandy canyon bottoms, and prefer areas with scattered scrub vegetation and leaf litter. No black legless lizards were observed during reconnaissance surveys on the proposed project site. The habitat value for lizards was found to be very poor on the project site. However, the site is consistent with the range and general habitat of the black legless lizard. Thus, Special Condition #13 requires that the project site be surveyed for these lizards by a qualified biologist prior to the commencement of construction, and on a

daily basis until grading is completed. If found, the lizards must be captured and immediately placed into containers with moist paper towels, and released in similar habitat on undisturbed portions of the site at the same depth in the soil as when found. With this condition, as well as the conditions discussed above, the proposed project is consistent with the environmentally sensitive habitat policies of the Coastal Act.

5. Other Approvals

State Parks will need to issue a "right-of-entry" permit to the Applicant for the encroachment activities due to construction. Special Condition #14 requires the Applicant to provide evidence that State Parks has issued the "right-of-entry" permit. In addition, Special Condition #3 requires the Applicant to consult with State Parks staff regarding the eastern section of proposed public access through the Ocean Harbor House parking lot and down to the beach (see Exhibit 8). If the trail down to the beach encroaches onto State Parks property, the Applicant will need to provide evidence of a permit from State Parks to build and maintain this portion of the accessway.

At this time, waters of the Monterey Bay sometimes occupy the seawall project area (during the winter, e.g.). In the future, with peninsula formation, the waters of the Monterey Bay will regularly occupy the seawall project area. Thus, the proposed project may require Monterey Bay National Marine Sanctuary approval. Special Condition #15 requires that the Applicant submit a copy of the Monterey Bay National Marine Sanctuary (MBNMS) permit, letter of permission, or evidence that no MBNMS permit is necessary.

6. California Environmental Quality Act (CEQA)

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. This staff report has discussed the relevant coastal resource issues with the proposal and in accordance therewith, the Commission has imposed appropriate mitigations to address adverse impacts to said resources. There are no additional full mitigation measures available that would substantially lessen the significant adverse impacts of the project proposal. As such, the Commission approves the project, subject to special conditions, pursuant to CEQA Section 21080.5, which allows approval of a project if there are no feasible alternatives or mitigation measures to reduce environmental impacts.